Appendix V Construction

1. CONSTRUCTION PHASE AIR QUALITY ANALYSIS

This section provides a description of the analysis performed to evaluate the air quality effects of construction activities, including the approach, methodology, and parameters used to determine emissions from construction equipment and activities; tables, figures, and charts describing construction equipment quantities, power usage, and emission factors; selection process for the most critical area for modeling analysis; evaluation of emission reduction measures, and graphics with emission sources and receptor locations analyzed.

METHODOLOGY

The analysis performed for estimating the potential air quality impacts caused by the on-site (i.e., demolition, excavation activities, spoil and rock removal, construction equipment, and truck movement) and the off-site (mobile source –traffic effects due to truck trips and lane closures) construction phase activities included the following:

- Estimation of emissions generated by the construction activities (deconstruction, excavation, spoil and rock removal, concrete and steel construction) including fugitive dust emissions and emissions released from diesel-powered equipment and trucks, at all construction sites expected to be under construction between 2005 and 2009.
- Determination of areas with the greatest potential for construction-phase air quality impacts based on emissions generation potential.
- Identification of the most heavily traveled truck routes where levels of service could be significantly affected.
- A modeling impact analysis of the largest cluster of adjacent construction sites (i.e., an on-site analysis).
- A modeling analysis of the intersections adjacent to the worst-case analysis area, using traffic data that include construction-related vehicles (i.e., an off-site analysis) and background traffic based on the ongoing activities in lower Manhattan for the corresponding year.
- A comparison of the combined (on-site and off-site) modeling results to the applicable National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), nitrogen dioxide (NO_2) and particulate matter smaller than 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$), and Significant Threshold Values (STVs) established by the NYC Department of Environmental Protection for $PM_{2.5}$.
- A description of the emission control measures that will be required to minimize construction phase impacts.

- A re-estimation of the construction related emissions with the application of the emission control program (mitigation scenario).
- A modeling PM_{10} and $PM_{2.5}$ impact analysis of the worst-case construction area including emission reduction measures that will achieve compliance with all NAAQS and the STVs.

POLLUTANTS OF CONCERN

The most significant pollutant associated with construction activities is particulate matter. PM_{10} emissions are primarily related to grading, excavation, construction and demolition, land clearing, blasting and drilling, material loading operations, and movement of heavy duty vehicles and equipment. $PM_{2.5}$ emissions are mostly related to the exhaust of diesel powered construction equipment and trucks.

The other significant pollutant of concern associated with construction activities is NO_2 from diesel-fueled engines of construction equipment and trucking activities within and near construction sites. Diesel engines emit primarily nitrogen oxides as nitrogen oxide (NO), which is then slowly converted to NO_2 in the presence of sunlight. Diesel engines emit relatively small quantities of CO, but this pollutant was considered to assess the combined effect of on-site and off-site emission sources.

The on-site analysis evaluated the effects of construction activities on PM_{10}, $PM_{2.5,}$ CO, and NO_2 concentrations.

The emissions associated with truck traffic on public roads (off-site analysis), used for the transportation of spoil, rock, debris removal, construction materials, and cement, and their effect on the traffic flow at the most affected intersection, were analyzed for their affects on CO, PM_{10} and $PM_{2.5}$ concentrations.

EMISSION SOURCES

Emissions from on-site construction activities included:

- Deconstruction and demolition;
- Land clearing, removal of debris, and loading onto the trucks;
- Soil excavation and spoil removal;
- Re-suspended dust resulting from the movement of trucks and equipment traveling on paved (unpaved) roads within the site; and
- Diesel engines of operational equipment and moving and queuing trucks and delivery vehicles.

The data utilized to estimate emissions generated from construction activities included:

- The schedule of construction activities for each one of the 13 sites under construction;
- The duration of each type of construction activity;
- The number and type of construction equipment to be used;
- Equipment horsepower and usage rates (hours per day);
- The number of hours and duration of demolition/deconstruction activities;
- The quantities of material produced and removed from each site from excavation, deconstruction, and tunneling activities;
- The number of trucks trips needed to remove the excavation material, and to bring the supply materials to each site;

- The average speed of construction equipment and delivery vehicles; and
- The vehicle miles traveled on and off-site by delivery trucks.

The emissions from off-site trucks and general traffic affected by construction truck routes followed the same assumptions developed for the operational effects of the Proposed Action as described in Chapter 21, "Air Quality."

OPERATING SCENARIOS

Emission rates of each pollutant from all sources were estimated for each type of construction activity. Given the fact that the different construction activities could range from a few weeks to several years, separate analyses were conducted to estimate short-term (24-hours or less) and long-term (annual average) pollutant levels. Short-term emission estimates were based on peak period activity levels at the site (defined as emissions per quarter). These emission estimates were used to compare the modeling results to short term exposure standards (i.e. 8-hours, 24-hours). Annual average activity levels were used to compare modeling results to annual exposure standards.

DETERMINATION OF EMISSION ESTIMATES

Project specific information was utilized to identify site-specific emission source parameters for use in the emission estimates and dispersion analysis. The following assumptions were applied:

- Estimated hourly emission rates of each pollutant from all of the construction equipment and trucks operating within the site were summed up to compute the total quarterly emissions by pollutant, reflecting the contribution of all types of emission sources within the site.
- Each construction-related truck was considered a heavy-duty diesel vehicle with a gross vehicle weight of 40,000 pounds when loaded and a vehicle weight of 20,000 pounds when empty.
- NO_X, PM_{10} and $PM_{2.5}$, and CO emission factors for moving vehicles (i.e., exhaust, brakes, and tires) and queuing vehicles were estimated using the EPA MOBILE 6.2 vehicular emission factor model as described in Chapter 21, "Air Quality."
- Total on-site vehicular emission rates of NOx, CO, PM_{10}, and $PM_{2.5}$ were estimated by multiplying emission factors for moving vehicles (g/veh-mile) by the distance that an average vehicle would travel within the site and by the number of on-site operating vehicles during the activity period.
- Total off-site vehicular emission rates of NOx, CO, PM_{10}, and $PM_{2.5}$ were estimated by multiplying emission factors for moving vehicles (g/veh-mile) by the average vehicles mile traveled (VMT) within NYC limits for each truck trip during the activity period.
- Re-entrained dust from moving delivery vehicles was estimated using the current EPA equation for fugitive dust sources on paved roads for PM_{10} and $PM_{2.5}$ emissions. Because of low vehicular speeds within the construction areas (i.e., less than 5 mph), a speed reduction factor was applied, as appropriate.
- Emission rates of NOx, CO, PM_{10} and $PM_{2.5}$ from diesel engines of construction equipment were estimated using the EPA NONROAD Emission Model (Report No. NR-009A, November 2002, EPA 420-P-02-016).

- Based on the equipment age distribution recommended in the EPA NONROAD model, it was conservatively assumed that 80 percent of diesel-powered construction equipment would comply with Tier 2 emission standards (post-model year 2001 for 300-600 horsepower (HP) engines, and post-2003 for 100-300 HP engines) and 20 percent would be Tier 1 compliance (post-1996 model year). Table V-1 provides the resulting emission factors.
- $PM_{2.5}$ emission factors for construction equipment were assumed to be 92 percent of the estimated PM_{10} emission factors for each type of equipment. This is the recommended percentage used in both the EPA's NONROAD Emission Model and the Mobile 6.2 Emission Model.
- The total number of working hours per week were estimated based on two eight-hour shifts, six days per week for the NYCT Seven Subway construction sites, and one $10^{1/2}$ -hour shift, six days a week for all other construction sites.
- Diesel fuel was assumed to be ULSD with a sulfur content of 15 parts per million (PPM) for all public-sector development projects, and off-road diesel fuel, with a sulfur content of 3,300 PM for the equipment at private-sector development sites. ULSD fuel is available in the New York City area today, and the use of this fuel is a requirement for MTA construction contracts. Table V-1 provides the fuel adjustment emission factors for PM_{10} and $PM_{2.5}$.
- Engine horsepower rating and load utilization factors (peak usage during the working hours) for the different type of equipment were estimated to produce an average HP usage per hour of the day as described in table V-2.
- Fugitive dust emission factors for demolition, excavation, truck loading, and re-entrained dust were based on the equations recommended in EPA's AP-42 Report "Compilation of Air Pollutant Emission Factors" Sections 13.2.3.1/2/3, Heavy Construction Operations, 11.9.1 Uncontrolled Open Fugitive Dust Sources, 13.2.1 Fugitive Dust from Paved Roads. The $PM_{2.5}$ to PM_{10} ratios varied depending on the type of activity performed according to the AP-42 data. In the case of fugitive dust on paved roads, where the AP-42 reference is quite dated, a ratio of $PM_{2.5}$ / PM_{10} of 0.04 was based on the most recent field data collected by MRI and DRI for different EPA and NCHRP studies.

TABLE V-1: EMISSION FACTORS FROM CONSTRUCTION EQUIPMENT

Rated HP	EF (gram/bHP-hour)					
Range	CO	NO_x	$PM_{10\ Base\ Fuel}$	$PM_{10\ ULSD}$	$PM_{2.5\ Base\ Fuel}$	$PM_{2.5\ ULSD}$
100-175	0.87	4.41	0.240	0.153	0.220	0.141
175-300	0.75	4.31	0.188	0.101	0.172	0.093
300-600	0.94	4.67	0.174	0.087	0.160	0.080

1. *Based on EPA Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling Compression-Ignition, Report No. NR-009b, November 27, 2002*
2. *20 percent of equipment is Tier 1 compliance (post 1996 model year)*
3. *80 percent of equipment is Tier 2 compliance (post 2001 for 300-600 HP engines, and post 2003 for 100-300 HP engines).*
4. *Deterioration Factor (DF) from zero –hour emission factors (on tables 3-5) of 1.2 for PM based on average equipment having 3 years of use.*
5. *Use of Ultra low Sulfur Diesel with 15 PPM sulfur content*
6. *PM Sulfur Adjustment:*

   $S_{PM\ adj} = BSFC \times 453.6 \times 7 \times 0.02247 \times 0.01 \times (sox_{base} - sox_{use})$

   Base fuel in model = 0.33 (3300 PPM)

   BSFC (brake specific fuel consumption) = 0.37 lb/HP hour (engines > 100 HP table c3)

   $S_{PM\ adj} = 0.26398\ (0.33\text{-}0.0015) = 0.0867$

   $PM_{ULSD} = PM_{base} - S_{PM\ adj}$

TABLE V-2: CONSTRUCTION EQUIPMENT POWER USAGE

1 Equip. Type	2 Type. HP[1]	3 Percent Usage							4 Daily Avg. Usage (HP)
Output Rate: % of Total		**0**	**10**	**25**	**50**	**75**	**90**	**100**	
Cranes	240	10	20	10	20	20	10	10	115
Cherry Pickers	200	10	10	20	30	10	10	10	100
Compressors	150	10	10	10	40	10	10	10	75
Excavators	225	10	10	10	10	20	20	20	135
Back Hoes	125	10	10	10	10	20	20	20	75
Dozers/Loaders	400	10	10	10	20	20	20	10	240
Trucks/Haulers	300	10	10	-	-	30	30	20	210
Graders/Scrapers	250	10		-	20	20	30	20	180
Concrete Truck	300	10	10	40	10	10	10	10	130
Compactors/Pavers	150	10	10	-	-	50	20	10	100
Material Delivery Trucks	250	50	20	-	-	-	20	10	75

Notes: Column 1 lists the equipment, Column 2 the rated horsepower of the listed equipment, Column 3 lists the percent of the day the equipment would be used at the specified output rate (as a percent of total horsepower); and Column 4 provides the average daily horsepower usage. For example, 20 percent of a typical work day a 240 horsepower crane would be operating at 50 percent of its total available horsepower.

IDENTIFICATION OF WORST-CASE ANALYSIS SITE AND WORST YEAR FOR ANALYSIS

Major construction activities would take place simultaneously at a number of locations throughout the study area. To determine which activities and locations could produce worst-case impacts, an estimation of emissions from each activity including its duration was conducted for the five year period starting at the beginning of 2005 and ending in December 2009. The proximity of operations to each other (cluster formation), and truck activity generated by each site was considered critical in determining which area will have the greatest potential for localized ambient air quality effects.

The EPA Tier 2 and Tier 3 emission standards for non-road diesel equipment, which were promulgated in 1998, will take effect between 2004 and 2008. This would significantly reduce NOx and PM diesel emissions. Since these stricter emission standards for diesel engines and the mandated use of cleaner diesel fuel are being implemented nationwide by the EPA after 2007, it is anticipated that the latter part of the construction process that will take place between 2010 and 2025 would generate much lower emissions for an equivalent amount of construction activity than those generated during the 2006/07 period.

In addition, in May 2004 the president signed the EPA final rule to greatly reduce harmful pollutants from non-road diesel engines. The new Tier 4 emission standards for non-road engines will apply to diesel engines used in most kinds of construction, agricultural, and industrial equipment. The new rule includes a nationally mandated reduction of sulfur content in non-road diesel fuel from approximately 2,800 parts per million (ppm) average today to 500 ppm by 2007, and 15 ppm by 2010, and the implementation of emission control technology on non-road diesel engines by 2008. The EPA anticipates that this new rule would reduce PM and NO_x emissions by up to 90 percent by 2030.

As a consequence, the air quality effects for the year 2006 construction period represents a conservative worst-case scenario as compared with conditions that could occur during the 2010/25 period.

The emission estimates included all construction activities and on and off-site trucking activities for the following sites:

- Terminal Station (West 34th Street and Eleventh Avenue);

- Retrieval Site L (West 41st Street and Tenth Avenue);
- Launch Site A (West 28th Street and Eleven Avenue)
- Fan Plant Site N (40th Street and Eight Avenue)
- NYDS Tow Pound - Block 675 (between West 29th and West 30th Streets and Eleventh and Twelfth Avenues);
- Projected Development Site 33 (Block 729 Lot 50);
- Eastern portion of Caemmerer Yard;
- Projected Development Site 14 (Block 1069 Lots 29 and 34);
- Multi-Use Facility at the western portion of Caemmerer Yard;
- Convention Center Expansion, Stage 1;
- Convention Center Expansion, Stage 2; and
- Convention Center Hotel

The total hourly and quarterly emissions for each site, including quantities of soil to be excavated and duration of construction activities, were used to rank these sites. The area with the largest emissions was selected for the detailed air quality impact analysis. Emission rates for each of these construction sites were based on the type and scale of activities, number and type of equipment used, hours of operation, and number of trucks that would be operated at the site.

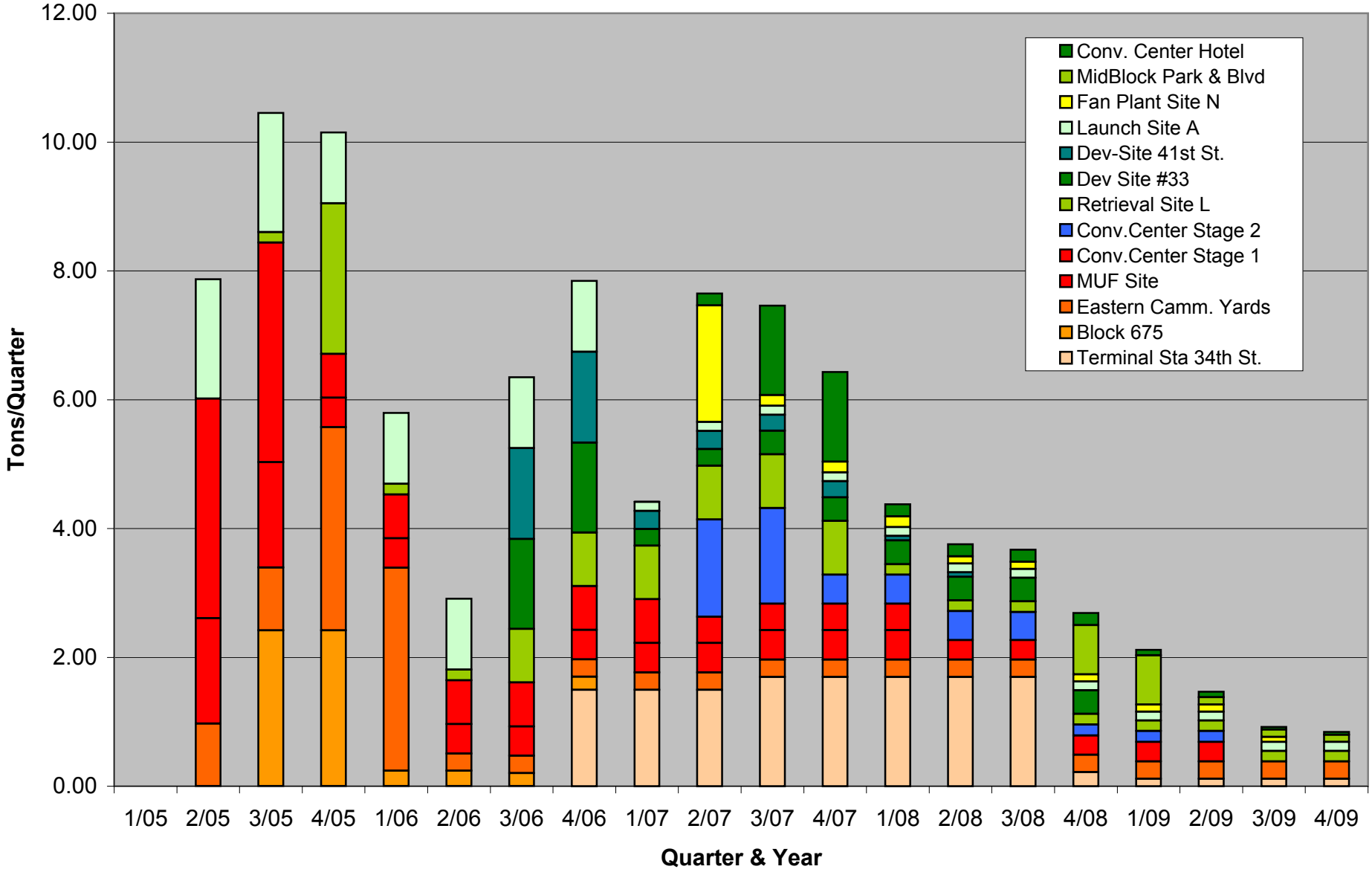
Emission estimates per quarter for all four pollutants were estimated for each one of these sites for the different stages and types of construction activities. In order to be able to compare times when simultaneous activities would be taking place at each site (and prepare a cumulative analysis of emissions across time and space), daily emissions were estimated on a quarterly basis.

Since the most critical pollutants from these activities are NO_x, PM_{10}, and $PM_{2.5}$ the quarterly emissions for these pollutants for each site, and the cumulative total, are added and combined on a time scale on Figures V-1, V-2 and V-3. The results presented in these figures include the emissions from construction equipment, trucking operations, fugitive dust generated by demolition, excavation, truck loading, exhaust and re-suspended dust from trucking activities. They also indicate that the largest emission generation area would be the cluster of adjacent sites including the Terminal Station, Multi-Use Facility, eastern portion of Caemmerer Yard, NYDS Tow Pound (Block 675), and the Convention Center. As it can be observed from these figures, the peak emissions for these five sites would occur during the third quarter of 2005 for PM_{10} (which has a significant dust component from demolition and excavation activities), and during the third quarter of 2006 for $PM_{2.5}$ and NOx (which are mostly the product of diesel engine exhaust). This is in concurrence with the cumulative peak trucking activity presented in this chapter.

These five adjacent sites have the potential to generate between 61 and 81% of the total NO_x emissions, between 76 and 81% of the total PM_{10} emissions, and between 46 and 79% of the total $PM_{2.5}$ emissions. It can also be observed from these figures that each of the private development sites would generate only 6 to 14% of the total emissions during their 30 month construction period.

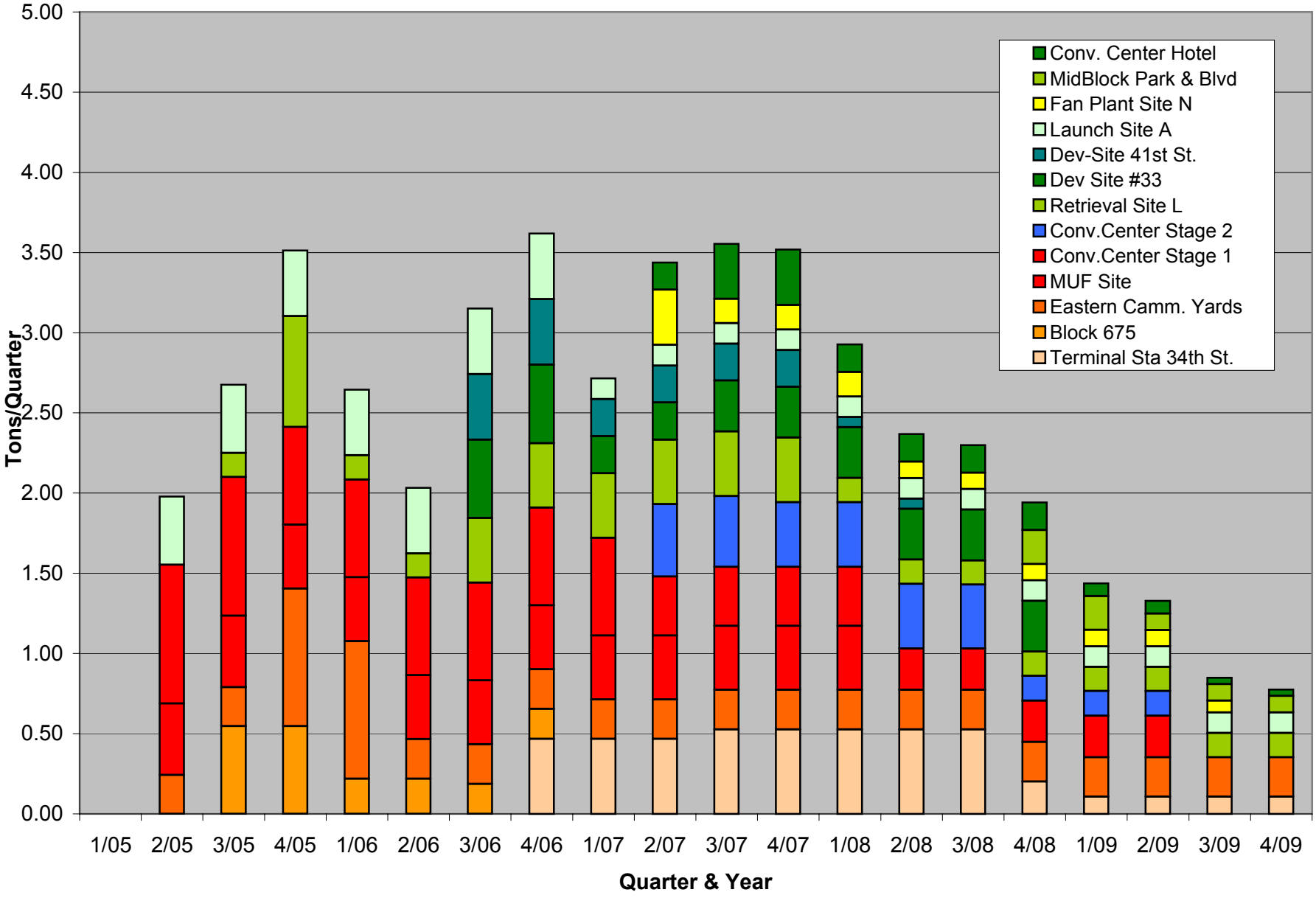
Based on the results of this analysis, it was concluded the area bounded by West 29th and West 40th Streets and Tenth and Twelfth Avenues represents the location where the largest potential for air quality impacts can occur. Table V-3 provides the approximate range of types and numbers of construction equipment operating at each one of these four sites during their highest level of activity.

Figure V-1
Quarterly PM10 Emissions from Construction Activities
2005 -2009 in Tons per Quarter



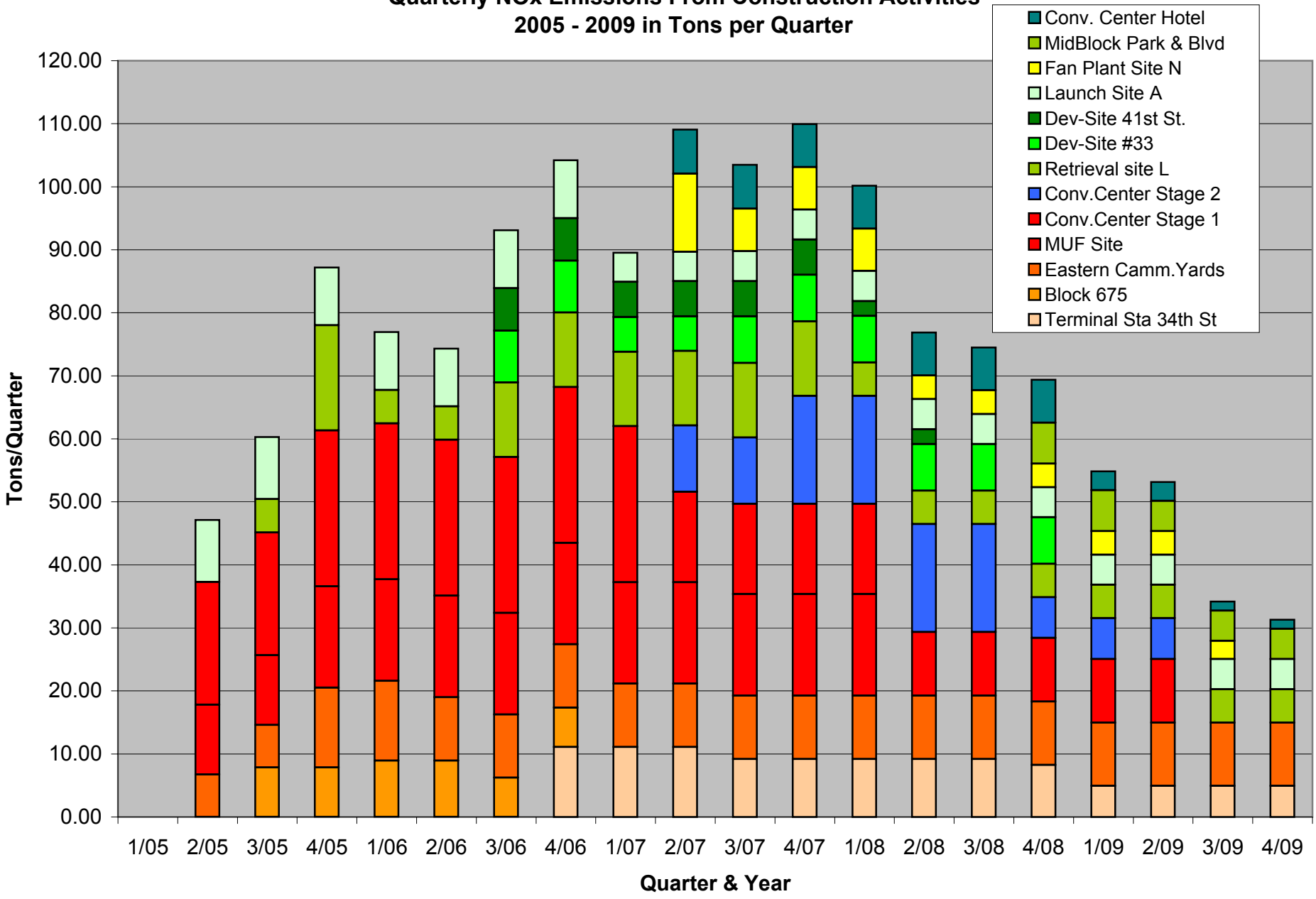
Final GEIS Const Emiss Base case 10-19-04.xls, Fig V-1 PM10 per site

Figure V-2
Quarterly PM2.5 Emissions from Construction Activities
2005 -2009 in Tons per Quarter



Final GEIS Const Emiss Base case 10-19-04.xls, Fig V-2 PM2.5 per site

Figure V-3
Quarterly NOx Emissions From Construction Activities
2005 - 2009 in Tons per Quarter



Final GEIS Const Emiss Base case 10-19-04.xls, Fig V-3 NOx per site

TABLE V-3
APPROXIMATE LIST OF CONSTRUCTION EQUIPMENT OPERATING DURING PEAK OF 2006 AT THE LARGEST CONSTRUCTION AREA

Equipment Type	Rated Horsepower	Number of Units per Site During Peak of 2006				
		Convention Center Stage 1	Terminal Station	Multi-Use Facility	Eastern Caemmerer Yard	NYDS Tow Pound Block 675
Front End Loaders	400	4	2	2	1	2
Backhoes	125	12	3	6	6	4
Cranes	240	6	1	8	8	1
Cherry Pickers	200	20	4	10	10	4
Pile Driving Rigs	200	2	1	2	2	4
Excavators	225	0	2	0	2	2
Graders	250	2	0	1	1	2
Compressors	150	15	4	10	10	5
Pavers	150	2	0	2	2	2
Totals	-	63	17	41	42	26

Tables V-4 to V-15 provide for each site evaluated: the schedule and description of construction activities, the number of pieces of construction equipment, horse-power usage, emission factors, the hours of demolition, quantities of materials to be removed, number of trucks necessary for each activity, and VMT traveled off-site for the trucks associated with each activity within New York City limits, and the quarterly emissions for each activity related to each construction site.

The summary of all on-site (i.e., demolition, excavation activities, spoil and rock removal, construction equipment, and truck movement within each site) and the off-site (construction related truck trips within NYC area) construction phase activities on a quarterly and annual basis for all four pollutants are presented in tables V-16 to V- 19. These tables provide the total emissions related to construction activities during the five year period between 2005 and 2009.

ON-SITE (CONSTRUCTION ACTIVITIES) ANALYSIS FOR CO, NO_2, PM_{10} AND $PM_{2.5}$

An atmospheric dispersion analyses was conducted to estimate pollutant levels at receptor sites near the selected construction area at points beyond the facility's site fence line. The EPA's Industrial Source Complex Short Term Air Quality Dispersion Model (ISCST3) was used. All emission sources within the construction site were modeled using the area source algorithm incorporated in the ISCST3 model.

EMISSION SOURCES

Since each piece of construction equipment could move around the entire site, depending of the nature of the activity performed, and specific locations of cranes or other large pieces of equipments could not be determined at this time, the total emissions from all the diesel powered equipment assigned to the specific activity during the typical working hour were represented as an area source

Table V-4
Terminal Station - West 34th and Eleventh Ave, Block 705 Lots 1, 5, 68 and Blcok 706 Lot 1
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading) -- Duration 10/06 - 6/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	8	1,200	0.597	2.965	0.055	0.051
Backhoes	3	125	75	225	0.8700	4.4100	0.1530	0.1410	8	1,200	0.259	1.313	0.046	0.042
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	8	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	8	1,200	0.397	2.280	0.053	0.049
Excavators/Bulldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	8	1,200	0.268	1.539	0.036	0.033
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Pile Driving Rigs	1	200	100	100	0.7500	4.3100	0.1010	0.0930	8	1,200	0.099	0.570	0.013	0.012
Compressors (total: electric and/or diesel)	4	150	75	300	0.8700	4.4100	0.1530	0.1410	8	1,200	0.345	1.750	0.061	0.056
Construction Equipment Total	17										2.079	11.073	0.280	0.258
Demolition, Excavation,Trucking -- Duration 10/06 - 6/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	3,686					0.7528	0.1054	8				0.520	0.073
Topsoil removal (Excavation)	lb/ton			**107,100**			0.0203	0.0064	8				0.408	0.128
Truck Loading	lb/ton			**107,100**			0.0139	0.0004	8				0.279	0.007
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**6,259**		12.33	16.76	0.3943	0.3638	8		0.00137	0.00186	0.00004	0.00004
Trucks Idling, (average per truck), min	g/hour	3	**6,259**		37.75	46.34	1.3745	1.2646	8		0.00488	0.00599	0.00018	0.00016
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**6,259**				52.1540	1.0431	8				0.006	0.0001
Construction Activity Total											**0.006**	**0.008**	**1.213**	**0.208**
VMT-Off site	**8,588**				3.85	9.60	1.1177	0.406	8		0.01366	0.03406	0.00397	0.00144
2006 4th & 2007 1st, 2nd Quarterly Emissions, tons/quarter											**2.099**	**11.115**	**1.496**	**0.467**
Drill and Blast Mining and Spoils Removal -- Duration 6/07 - 10/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	15	1,200	0.597	2.965	0.055	0.051
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	15	1,200	0.518	2.625	0.091	0.084
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	15	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	15	1,200	0.198	1.140	0.027	0.025
Compressors	4	150	75	300	0.8700	4.4100	0.1530	0.1410	15	1,200	0.345	1.750	0.061	0.056
Construction Equipment Total	**15**										**1.772**	**9.136**	**0.249**	**0.229**
Excavation,Trucking -- Duration 6/07 - 10/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour						0.7528	0.1054	15					
Spoils removal (Excavation)	lb/ton			**418,500**			0.0203	0.0064	15				0.850	0.267
Truck Loading	lb/ton			**418,500**			0.0139	0.0004	15				0.581	0.028
Trucks Exhaust, (g/veh-mile)	g/veh-mi		**20,670**		11.24	15.27	0.3338	0.3072	15		0.00220	0.00299	0.00007	0.00006
Trucks Idling, (average per truck), min	g/hour	3	**20,670**		34.41	42.21	1.3012	1.1971	15		0.00784	0.00962	0.00030	0.00027
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mi		**20,670**				52.1540	1.0431	15				0.010	0.0002
Construction Activity Total											0.010	0.013	1.441	0.295
VMT-Off site	**28,111**				3.85	9.60	1.1177	0.406	15		0.02384	0.05946	0.00693	0.00252
2007 3rd & 4th, 2008 1st, 2nd, 3rd Quarterly Emissions, tons/quarter											**1.806**	**9.208**	**1.697**	**0.527**

Table V-4
Terminal Station - West 34th and Eleventh Ave, Block 705 Lots 1, 5, 68 and Blcok 706 Lot 1
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Construction work in the shafts and tunnel														
Shaft, Cavern and Tunnel Lining, Steel Installation (within shafts) - Duration: 10/08 - 12/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	2	1,200	0.597	2.965	0.055	0.051
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	2	1,200	0.345	1.750	0.061	0.056
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	2	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	2	1,200	0.198	1.140	0.027	0.025
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	2	1,200	0.000	0.000	0.000	0.000
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	2	1,200	0.000	0.000	0.000	0.000
Shotcrete Pump	1	125	75	75	0.8700	4.4100	0.1530	0.1410	2	1,200	0.086	0.438	0.015	0.014
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	2	1,200	0.000	0.000	0.000	0.000
Compressors (total: electric and/or diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	2	1,200	0.259	1.313	0.046	0.042
Construction Equipment Total	13										1.600	8.261	0.219	0.201
2007-2008 Total Quarterly Emissions, tons/quarter											**1.600**	**8.261**	**0.219**	**0.201**
total truck miles in NYC = 110,753														
General Subway Construction - Duration: 12/08 - 12/09														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	12	1,200	0.597	2.965	0.055	0.051
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	12	1,200	0.173	0.875	0.030	0.028
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	12	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	0	200	100	0	0.7500	4.3100	0.1010	0.0930	12	1,200	0.000	0.000	0.000	0.000
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	12	1,200	0.000	0.000	0.000	0.000
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	12	1,200	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	12	1,200	0.000	0.000	0.000	0.000
Compressors (total: electric and/or diesel)	1	150	75	75	0.8700	4.4100	0.1530	0.1410	12	1,200	0.086	0.438	0.015	0.014
Construction Equipment Total	6										0.970	4.933	0.116	0.107
2008-2009 Total Quarterly Emissions, tons											**0.970**	**4.933**	**0.116**	**0.107**

total truck miles in NYC = 2,875

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 1200 hrs for transit sites based on two 8 hr shifts equal 16 hrs/day

Table V-5
Retrieval Site L
Block 1051 41st 42nd Street 10th Ave.
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Demolition, Excavation, Grading, Trenching, Soldier Piles) -- Duration 10/05-1/06														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	3	1,200	0.597	2.965	0.055	0.051
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	3	1,200	0.345	1.750	0.061	0.056
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1010	0.0930	3	1,200	0.298	1.710	0.040	0.037
Excavators/Buldozers	1	225	135	135	0.7500	4.3100	0.1010	0.0930	3	1,200	0.134	0.770	0.018	0.017
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	3	1,200	0.114	0.656	0.015	0.014
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	3	1,200	0.179	1.026	0.024	0.022
Pavers	1	150	100	100	0.8700	4.4100	0.1530	0.1410	3	1,200	0.115	0.583	0.020	0.019
Pile Driving Rigs	1	200	100	100	0.7500	4.3100	0.1010	0.0930	3	1,200	0.099	0.570	0.013	0.012
Compressors (50% electric, # includes only diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	3	1,200	0.259	1.313	0.046	0.042
Construction Equipment Total	**17**										**2.140**	**11.343**	**0.293**	**0.269**
Demolition, Excavation,Trucking -- Duration 10/05 - 1/06		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	1,638					0.7528	0.1054	3				0.617	0.032
Topsoil removal (Excavation)	lb/ton			**73,140**			0.0203	0.0064	3				0.742	0.233
Truck Loading	lb/ton			**73,140**			0.0139	0.0004	3				0.507	0.005
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**2,900**		13.73	19.04	0.4780	0.4420	3		0.00325	0.00450	0.00011	0.00010
Trucks Idling, (average per truck), min	g/hour	3	**2,900**		42.03	52.65	1.5146	1.3934	3		0.00672	0.00842	0.00024	0.00022
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**2,900**				52.1540	1.0431	3				0.012	0.0002
Construction Activity Total											**0.010**	**0.013**	**1.879**	**0.271**
VMT-Off site	1,450				3.85	9.60	1.1177	0.406	3		0.00615	0.01534	0.00179	0.00065
2005 3rd, 4th Quarter Emissions, tons/quarter											**2.156**	**11.371**	**2.173**	**0.541**

Table V-5
Retrieval Site L
Block 1051 41st 42nd Street 10th Ave.
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Drill & Blast Mining and Spoils Removal - Duration 6/06 - 1/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	18	1,200	0.597	2.965	0.055	0.051
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	18	1,200	0.173	0.875	0.030	0.028
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	18	1,200	0.198	1.140	0.027	0.025
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	18	1,200	0.114	0.656	0.015	0.014
Excavators	0	225	135	0	0.7500	4.3100	0.1010	0.0930	18	1,200	0.000	0.000	0.000	0.000
Compressors	2	150	75	150	0.8700	4.4100	0.1530	0.1410	18	1,200	0.173	0.875	0.030	0.028
Construction Equipment Total	9										1.255	6.511	0.158	0.145
Demolition, Excavation,Trucking -- Duration 6/06 - 1/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054	18				0.000	0.000
Topsoil removal (Excavation)	lb/ton			**176,850**			0.0203	0.0064	18				0.299	0.094
Truck Loading	lb/ton			**176,850**			0.0139	0.0004	18				0.204	0.012
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**8,730**		11.73	16.03	0.3943	0.3638	18		0.00139	0.00190	0.00005	0.00004
Trucks Idling, (average per truck), min	g/hour	3	**8,730**		35.93	44.24	1.3745	1.2646	18		0.00288	0.00355	0.00011	0.00010
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**8,730**				52.1540	1.0431	18				0.006	0.0001
Construction Activity Total											0.004	0.005	0.510	0.106
VMT-Off site	4,365				3.85	9.60	1.1177	0.406	18		0.00309	0.00769	0.00090	0.00033
2006 4th, 2007 1st, 2nd, 3rd, 4th Quarter Emissions, tons/quarter											**1.262**	**6.524**	**0.669**	**0.252**
Tunnel Construction, Cavern and System Space Const. Duration: 6/05 - 12/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	54	1,200	0.000	0.000	0.000	0.000
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	54	1,200	0.345	1.750	0.061	0.056
Shotcrete Pump	1	125	75	75	0.8700	4.4100	0.1530	0.1410	54	1,200	0.086	0.438	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	54	1,200	0.198	1.140	0.027	0.025
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	54	1,200	0.114	0.656	0.015	0.014
Excavators	0	225	135	0	0.7500	4.3100	0.1010	0.0930	54	1,200	0.000	0.000	0.000	0.000
Compressors	3	150	75	225	0.8700	4.4100	0.1530	0.1410	54	1,200	0.259	1.313	0.046	0.042
Construction Equipment Total	11										1.003	5.296	0.164	0.151
2005-2009 Total Quarterly Emissions, tons											**1.003**	**5.296**	**0.164**	**0.151**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 1200 hrs for transit sites based on two 8 hr shifts or 16 hrs/day

Table V-6
Blcok 675 - DSNY NYPD Tow Pound
Between West 29th and West 30th Streets and Eleventh and Twelfth Avenues, All Lots
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Deconstruction, Excavation, Grading, Spoils Removal) -- Duration 7/05-12/05														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	5	787	0.391	1.945	0.036	0.033
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	5	787	0.226	1.148	0.040	0.037
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	5	787	0.000	0.000	0.000	0.000
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	5	787	0.260	1.496	0.035	0.032
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	5	787	0.176	1.010	0.024	0.022
Graders	2	250	180	360	0.7500	4.3100	0.1010	0.0930	5	787	0.234	1.346	0.032	0.029
Compressors (50% electric, # includes only diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	5	787	0.170	0.861	0.030	0.028
Construction Equipment Total	17										1.458	7.804	0.196	0.181
Demolition, Excavation,Trucking -- Duration 7/05 - 12/05		**Number of Hours**	**Number of Trucks**	**Quantity of Material**										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	2,457					0.7528	0.1054	5				0.555	0.049
Topsoil removal (Excavation)	lb/ton			**159,380**			0.0203	0.0064	5				0.971	0.305
Truck Loading	lb/ton			**159,380**			0.0139	0.0004	5				0.663	0.011
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**6,150**		13.73	19.04	0.4780	0.4420	5		0.00832	0.01154	0.00029	0.00027
Trucks Idling, (average per truck), min	g/hour	3	**6,150**		42.03	52.65	1.5146	1.3934	5		0.00855	0.01071	0.00031	0.00028
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**6,150**				52.1540	1.0431	5				0.032	0.0006
Construction Activity Total											0.017	0.022	2.221	0.365
VMT-Off site	4,365				3.85	9.60	1.1177	0.406	5		0.01111	0.02770	0.00323	0.00117
2005 3rd & 4th Quarter Emissions, tons/quarter											**1.486**	**7.854**	**2.421**	**0.547**
Pile Driving, Concrete Pours - Duration -- Duration 12/5-6/06														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	6	787	0.391	1.945	0.036	0.033
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	6	787	0.226	1.148	0.040	0.037
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	6	787	0.260	1.496	0.035	0.032
Excavators	0	225	135	0	0.7500	4.3100	0.1010	0.0930	6	787	0.000	0.000	0.000	0.000
Scrapers	1	250	180	180	0.7500	4.3100	0.1010	0.0930	6	787	0.117	0.673	0.016	0.015
Pile Driving Rigs	4	200	100	400	0.7500	4.3100	0.1010	0.0930	6	787	0.260	1.496	0.035	0.032
Pavers	2	150	100	200	0.8700	4.4100	0.1530	0.1410	6	787	0.151	0.765	0.027	0.024
Compressors (50% electric, # includes only diesel)	5	150	75	375	0.8700	4.4100	0.1530	0.1410	6	787	0.283	1.435	0.050	0.046
Construction Equipment Total	22										1.689	8.956	0.238	0.219
2006 1st & 2nd Quarter Emissions, tons/quarter											**1.689**	**8.956**	**0.238**	**0.219**
Construction Finishing -- Duration 7/06-12/06														
Backhoes	4	125	240	960	0.8700	4.4100	0.1530	0.1410	5	787	0.725	3.673	0.127	0.117
Cherry Pickers	4	200	75	300	0.7500	4.3100	0.1010	0.0930	5	787	0.195	1.122	0.026	0.024
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	5	787	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	5	150	75	375	0.8700	4.4100	0.1530	0.1410	5	787	0.283	1.435	0.050	0.046
Construction Equipment Total	13										1.203	6.229	0.203	0.188
2006 3rd & 4th Quarter Emissions, tons/quarter											**1.203**	**6.229**	**0.203**	**0.188**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of $10^{1/2}$ hrs/day

Table V-7
DS 33
Block 729 - 31st Street 9th Avenue
Estimated Quarterly CO, NOx, PM10and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Demolition, Excavation, Grading, Trenching, Piles Driving) -- Duration 7/06-12/06														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	6	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	6	787	0.226	1.148	0.040	0.037
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1880	0.1720	6	787	0.195	1.122	0.049	0.045
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1880	0.1720	6	787	0.176	1.010	0.044	0.040
Graders	1	250	180	180	0.7500	4.3100	0.1880	0.1720	6	787	0.117	0.673	0.029	0.027
Compactor	1	150	100	100	0.8700	4.4100	0.2400	0.2200	6	787	0.075	0.383	0.021	0.019
Pile Driving Rigs	2	200	100	200	0.7500	4.3100	0.1880	0.1720	6	787	0.130	0.748	0.033	0.030
Compressors (50% electric, # includes only diesel)	4	150	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Construction Equipment Total	***19***										***1.538***	***8.175***	***0.350***	***0.321***
Demolition, Excavation,Trucking -- Duration 7/06 - 12/06		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	2,048					0.7528	0.1054	6				0.385	0.040
Topsoil removal (Excavation)	lb/ton			**75,600**			0.0203	0.0064	6				0.384	0.121
Truck Loading	lb/ton			**75,600**			0.0139	0.0004	6				0.262	0.005
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**4,000**		12.72	17.55	0.4278	0.3957	6		0.00261	0.00360	0.00009	0.00008
Trucks Idling, (average per truck), min	g/hour	3	**4,000**		38.95	48.55	1.4155	1.3023	6		0.00429	0.00535	0.00016	0.00014
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**4,000**				52.1540	1.0431	6				0.011	0.0002
Construction Activity Total											**0.007**	**0.009**	**1.042**	**0.166**
VMT-Off site	5,200				3.85	9.60	1.1177	0.406	6		0.01103	0.02750	0.00320	0.00116
2006 3rd & 4th Quarter Emissions, tons/quarter											**1.556**	**8.211**	**1.396**	**0.489**
Substructure Concrete Pours-- Duration 1/07-7/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	6	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Cranes	1	240	115	115	0.7500	4.3100	0.1880	0.1720	6	787	0.075	0.430	0.019	0.017
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1880	0.1720	6	787	0.130	0.748	0.033	0.030
Compressors (50% electric, # includes only diesel)	4	150	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Construction Equipment Total	**13**										**1.049**	**5.418**	**0.249**	**0.228**

Table V-7
DS 33
Block 729 - 31st Street 9th Avenue
Estimated Quarterly CO, NOx, PM10and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Substructure Concrete Pours-- Duration 1/07-7/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**600**		12.72	17.55	0.4278	0.3957	6		0.00039	0.00054	0.00001	0.00001
Trucks Idling, (average per truck), min	g/hour	3	**600**		38.95	48.55	1.4155	1.3023	6		0.00064	0.00080	0.00002	0.00002
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**600**				52.1540	1.0431	6				0.002	0.00003
Construction Activity Total											**0.001**	**0.001**	**0.002**	**0.000**
VMT-Off site	13,800				3.85	9.60	1.1177	0.406	6		0.02926	0.07298	0.00850	0.00309
2007 1st & 2nd Quarter Emissions, tons/quarter											**1.080**	**5.492**	**0.259**	**0.231**
General Construction (Superstructure Concrete, Structural Steel) -- Duration 7/07-12/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	18	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.2400	0.2200	18	787	0.226	1.148	0.062	0.057
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1880	0.1720	18	787	0.260	1.496	0.065	0.060
Cranes	1	240	115	115	0.7500	4.3100	0.1880	0.1720	18	787	0.075	0.430	0.019	0.017
Compressors (50% electric, # includes only diesel)	8	150	75	563	0.8700	4.4100	0.2400	0.2200	18	787	0.425	2.152	0.117	0.107
Construction Equipment Total	**19**										**1.377**	**7.170**	**0.336**	**0.308**
General Const. (Superstrc. Concrete, Steel) -- Duration 7/07-12/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**6,500**		11.73	16.03	0.3651	0.3367	18		0.00130	0.00178	0.00004	0.00004
Trucks Idling, (average per truck), min	g/hour	3	**6,500**		35.93	44.24	1.3393	1.2322	18		0.00215	0.00264	0.00008	0.00007
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**6,500**				52.1540	1.0431	18				0.006	0.0001
Construction Activity Total											**0.003**	**0.004**	**0.006**	**0.000**
VMT-Off site	116,950				3.85	9.60	1.1177	0.406	18		0.08266	0.20616	0.02401	0.00872
2007 3rd & 4th, 2008-all year Quarter Emissions, tons/quarter											**1.464**	**7.381**	**0.366**	**0.317**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, assuming off-road diesel fuel. Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of 101/2 hrs/day

Table V-8
Eastern Caemmerer Yards - 30th and 33rd Streets between Tenth and Eleventh Avenues, Blocks 702 and 704
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Demolition, Excavation, Grading, Trenching, Soldier Piles, Wall Construction) -- Duration 4/05-8/05														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	4	787	0.391	1.945	0.036	0.033
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	4	787	0.226	1.148	0.040	0.037
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	4	787	0.260	1.496	0.035	0.032
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	4	787	0.176	1.010	0.024	0.022
Compressors (50% electric, # includes only diesel)	4	150	75	300	0.8700	4.4100	0.1530	0.1410	4	787	0.226	1.148	0.040	0.037
Construction Equipment Total	**16**										**1.280**	**6.745**	**0.175**	**0.161**
Demolition, Excavation,Trucking -- Duration: 4/05 - 8/05		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	2,048					0.7528	0.1054	4				0.578	0.040
Topsoil removal (Excavation)	lb/ton			**16,703**			0.0203	0.0064	4				0.127	0.040
Truck Loading	lb/ton			**16,703**			0.0139	0.0004	4				0.087	0.001
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**680**		13.73	19.04	0.4780	0.4420	4		0.00115	0.00159	0.00004	0.00004
Trucks Idling, (average per truck), min	g/hour	3	**680**		42.03	52.65	1.5146	1.3934	4		0.00118	0.00148	0.00004	0.00004
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**680**				52.1540	1.0431	4				0.004	0.0001
Construction Activity Total											**0.002**	**0.003**	**0.797**	**0.082**
VMT-Off site	924				3.85	9.60	1.1177	0.406	4		0.00294	0.00733	0.00085	0.00031
2005 2nd & 3rd Quarter Emissions, tons/quarter											**1.285**	**6.756**	**0.972**	**0.243**
Caisson Drilling & Installation, Concrete Pours, Steel Erection) -- Duration 8/05-4/06														
Front End Loaders	1	400	240	240	0.9400	4.6700	0.0870	0.0800	8	787	0.196	0.972	0.018	0.017
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	8	787	0.340	1.722	0.060	0.055
Excavators	2	225	135	270	0.7500	4.3100	0.1010	0.0930	8	787	0.176	1.010	0.024	0.022
Cherry Pickers	10	200	100	1,000	0.7500	4.3100	0.1010	0.0930	8	787	0.651	3.739	0.088	0.081
Scrapers	1	250	180	180	0.7500	4.3100	0.1010	0.0930	8	787	0.117	0.673	0.016	0.015
Pile Driving Rigs	2	200	100	200	0.7500	4.3100	0.1010	0.0930	8	787	0.130	0.748	0.018	0.016
Pavers	2	150	100	200	0.8700	4.4100	0.1530	0.1410	8	787	0.151	0.765	0.027	0.024
Compressors (50% electric, # includes only diesel)	10	150	75	750	0.8700	4.4100	0.1530	0.1410	8	787	0.566	2.869	0.100	0.092
Construction Equipment Total	**34**										**2.326**	**12.498**	**0.349**	**0.321**

Table V-8
Eastern Caemmerer Yards - 30th and 33rd Streets between Tenth and Eleventh Avenues, Blocks 702 and 704
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3)				Construction Activity Duration		Estimated Pollutant Quarterly Emissions			
					CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Months	(4) hrs/quarter	CO tons	NOx tons	PM10 tons	PM2.5 tons
Demolition, Excavation,Trucking -- Duration 8/05 - 4/06		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	820					0.7528	0.1054	8				0.116	0.016
Spoils removal (Excavation)	lb/ton			**406,751**			0.0203	0.0064	8				1.548	0.487
Truck Loading	lb/ton			**406,751**			0.0139	0.0004	8				1.058	0.027
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**21,110**		13.23	18.30	0.4529	0.4189	8		0.01720	0.02379	0.00059	0.00054
Trucks Idling, (average per truck), min	g/hour	3	**21,110**		40.49	50.60	1.4651	1.3479	8		0.01767	0.02208	0.00064	0.00059
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**21,110**				52.1540	1.0431	8				0.068	0.0014
Construction Activity Total											**0.035**	**0.046**	**2.791**	**0.532**
VMT-Off site	28,710				3.85	9.60	1.1177	0.406	8		0.04566	0.11387	0.01326	0.00482
2005 4th, 2006 1st Quarter Emissions, tons/quarter											**2.406**	**12.657**	**3.153**	**0.858**
General Platform Construction -- Duration 4/06 -12/09														
Cherry Pickers	10	200	100	1,000	0.7500	4.3100	0.1010	0.0930	44	787	0.651	3.739	0.088	0.081
Backhoes	0	125	75	0	0.8700	4.4100	0.1530	0.1410	44	787	0.000	0.000	0.000	0.000
Cranes	8	240	115	920	0.7500	4.3100	0.1010	0.0930	44	787	0.599	3.440	0.081	0.074
Compressors (50% electric, # includes only diesel) total (50%	10	150	75	750	0.8700	4.4100	0.1530	0.1410	44	787	0.566	2.869	0.100	0.092
Construction Equipment Total	28										1.815	10.048	0.268	0.247
2006 2nd, 3rd, 4th - 2007, 2008, 2009 all Quarter Emissions, tons/quarter											**1.815**	**10.048**	**0.268**	**0.247**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 750 hrs for private sites based on one shift of 10 hrs/day

Development Site 14- Between 40th 41st Streets 10th Avenue - Block 1069
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading, Spois Removal, Trenching, Piles Driving) -- Duration 7/06-12/06														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	6	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1880	0.1720	6	787	0.195	1.122	0.049	0.045
Excavators	2	225	135	270	0.7500	4.3100	0.1880	0.1720	6	787	0.176	1.010	0.044	0.040
Grader	1	250	180	180	0.7500	4.3100	0.1880	0.1720	6	787	0.117	0.673	0.029	0.027
Compressors (50% electric, # includes only diesel) total	3	150	75	225	0.8700	4.4100	0.2400	0.2200	6	787	0.170	0.861	0.047	0.043
Construction Equipment Total	**15**										**1.276**	**6.757**	**0.304**	**0.279**
Demolition, Excavation,Trucking -- Duration 7/06 - 12/06		**Number of Hours**	**Number of Trucks**	**Quantity of Material**										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	5,048					0.7528	0.1054	6				0.950	0.100
Topsoil removal (Excavation)	lb/ton			**18,144**			0.0203	0.0064	6				0.092	0.029
Truck Loading	lb/ton			**18,144**			0.0139	0.0004	6				0.063	0.001
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**720**		12.72	17.55	0.4278	0.3607	6		0.00022	0.00030	0.00001	0.00001
Trucks Idling, (average per truck), min	g/hour	3	**720**		38.95	48.55	1.4155	1.3023	6		0.00077	0.00096	0.00003	0.00003
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**720**				52.1540	1.0431	6				0.001	0.00002
Construction Activity Total											**0.001**	**0.001**	**1.106**	**0.130**
VMT-Off site	360				3.85	9.60	1.1177	0.406	6		0.00076	0.00190	0.00022	0.00008
2006 3rd & 4th Quarter Emissions, tons/quarter											**1.277**	**6.759**	**1.410**	**0.409**
Concrete and Piles -- Duration 1/07-7/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	6	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1880	0.1720	6	787	0.130	0.748	0.033	0.030
Pile Driving Rigs	1	200	100	100	0.7500	4.3100	0.1880	0.1720	6	787	0.065	0.374	0.016	0.015
Cranes	1	240	115	115	0.7500	4.3100	0.1880	0.1720	6	787	0.075	0.430	0.019	0.017
Compressors (50% electric, # includes only diesel)	2	150	75	150	0.8700	4.4100	0.2400	0.2200	6	787	0.113	0.574	0.031	0.029
Construction Equipment Total	12										1.001	5.218	0.234	0.214
Concrete and Piles -- Duration 1/07-7/07		**Number of Hours**	**Number of Trucks**	**Quantity of Material**										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**3,000**		12.72	17.55	0.4278	0.3607	6		0.00090	0.00125	0.00003	0.00003
Trucks Idling, (average per truck), min	g/hour	3	**3,000**		38.95	48.55	1.4155	1.3023	6		0.00322	0.00401	0.00012	0.00011
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**3,000**				52.1540	1.0431	6				0.004	0.00007
Construction Activity Total											**0.0041**	**0.0053**	**0.0039**	**0.0002**
VMT-Off site	69,000				3.85	9.60	1.1177	0.406	6		0.14630	0.36489	0.04251	0.01544
2007 1st & 2nd Quarter Emissions, tons/quarter											**1.151**	**5.588**	**0.280**	**0.230**

Development Site 14- Between 40th 41st Streets 10th Avenue - Block 1069
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
General Construction -- Duration 7/07-12/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.1740	0.1600	6	787	0.391	1.945	0.072	0.067
Backhoes	4	125	75	300	0.8700	4.4100	0.2400	0.2200	6	787	0.226	1.148	0.062	0.057
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1880	0.1720	6	787	0.260	1.496	0.065	0.060
Cranes	1	240	115	115	0.7500	4.3100	0.1880	0.1720	6	787	0.075	0.430	0.019	0.017
Compressors (50% electric, # includes only diesel)	2	150	75	150	0.8700	4.4100	0.2400	0.2200	6	787	0.113	0.574	0.031	0.029
Construction Equipment Total	**13**										**1.066**	**5.592**	**0.250**	**0.229**
Demolition, Excavation,Trucking -- Duration 7/07 - 12/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**320**		12.33	16.76	0.3607	0.3319	6		0.00009	0.00013	0.000003	0.000003
Trucks Idling, (average per truck), min	g/hour	3	**320**		37.75	46.34	1.3335	1.2268	6		0.00033	0.00041	0.00001	0.00001
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**320**				52.1540	1.0431	6				0.0004	0.00001
Construction Activity Total											**0.0004**	**0.0005**	**0.0004**	**0.0000**
VMT-Off site	160				3.85	9.60	1.1177	0.406	6		0.00034	0.00085	0.00010	0.00004
2007 3rd & 4th Quarter Emissions, tons/quarter											**1.067**	**5.593**	**0.251**	**0.229**
General Construction -- Duration 1/08-7/08														
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	6	787	0.113	0.574	0.020	0.018
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	6	787	0.130	0.748	0.018	0.016
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	6	787	0.075	0.430	0.010	0.009
Compressors (50% electric, # includes only diesel)	2	150	75	150	0.8700	4.4100	0.1530	0.1410	6	787	0.113	0.574	0.020	0.018
Construction Equipment Total	7										0.431	2.326	0.067	0.062
Demolition, Excavation,Trucking -- Duration 1/08 - 7/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**220**		11.94	15.96	0.3607	0.3319	6		0.00006	0.00008	0.000002	0.000002
Trucks Idling, (average per truck), min	g/hour	3	**220**		36.55	44.13	1.3335	1.2268	6		0.00022	0.00027	0.00001	0.00001
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**220**				52.1540	1.0431	6				0.0003	0.00001
Construction Activity Total											0.0003	0.0004	0.0003	0.0000
VMT-Off site	5,060				3.85	9.60	1.1177	0.406	6		0.01073	0.02676	0.00312	0.00113
2008 1st & 2nd Quarter Emissions, tons/quarter											**0.442**	**2.353**	**0.071**	**0.063**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, assuming use of off-road diesel fuel. Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of 101/2 hrs/day

Table V-10
Multi-Use Facility (MUF) at the West Caemmerer Yard, Block 676 and 679
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Demolition, Excavation, Grading, Spoils Removal, Trenching, Soldier Piles) -- Duration 4/05-8/05														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	4	787	0.391	1.945	0.036	0.033
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	4	787	0.340	1.722	0.060	0.055
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	4	787	0.260	1.496	0.035	0.032
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	4	787	0.176	1.010	0.024	0.022
Cranes	2	240	115	230	0.7500	4.3100	0.1010	0.0930	4	787	0.150	0.860	0.020	0.019
Pile Driving Rigs	4	200	100	400	0.7500	4.3100	0.1010	0.0930	4	787	0.260	1.496	0.035	0.032
Graders	2	250	180	360	0.7500	4.3100	0.1010	0.0930	4	787	0.234	1.346	0.032	0.029
Compressors (50% electric, # includes only diesel)	4	150	75	300	0.8700	4.4100	0.1530	0.1410	4	787	0.226	1.148	0.040	0.037
Construction Equipment Total	**26**										**2.038**	**11.021**	**0.281**	**0.259**
Demolition, Excavation,Trucking -- Duration: 4/05 - 8/05		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	2,048					0.7528	0.1054	4				0.578	0.040
Topsoil, Demo Debris, Rock removal (Excavation)	lb/ton			**58,705**			0.0203	0.0064	4				0.447	0.140
Truck Loading	lb/ton			**58,705**			0.0139	0.0004	4				0.305	0.004
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**3,100**		13.73	19.04	0.4780	0.4420	4		0.00524	0.00727	0.00018	0.00017
Trucks Idling, (average per truck), min	g/hour	3	**3,100**		42.03	52.65	1.5146	1.3934	4		0.00539	0.00675	0.00019	0.00018
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**3,100**				52.1540	1.0431	4				0.020	0.0004
Construction Activity Total											**0.011**	**0.014**	**1.351**	**0.186**
VMT-Off site	4,327				3.85	9.60	1.1177	0.406	4		0.01376	0.03432	0.00400	0.00145
2005 2nd & 3rd Quarter Emissions, tons/quarter											**2.062**	**11.069**	**1.636**	**0.446**
Caisson Drilling & Installation, Concrete Pours, Steel Erection -- Duration 8/05-4/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	32	787	0.391	1.945	0.036	0.033
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	32	787	0.340	1.722	0.060	0.055
Cherry Pickers	10	200	100	1,000	0.7500	4.3100	0.1010	0.0930	32	787	0.651	3.739	0.088	0.081
Pile Driving Rigs	2	200	100	200	0.7500	4.3100	0.1010	0.0930	32	787	0.130	0.748	0.018	0.016
Excavators	0	225	135	0	0.7500	4.3100	0.1010	0.0930	32	787	0.000	0.000	0.000	0.000
Cranes	8	240	115	920	0.7500	4.3100	0.1010	0.0930	32	787	0.599	3.440	0.081	0.074
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	32	787	0.117	0.673	0.016	0.015
Pavers	2	150	100	200	0.8700	4.4100	0.1530	0.1410	32	787	0.151	0.765	0.027	0.024
Compressors (50% electric, # includes only diesel)	10	150	75	750	0.8700	4.4100	0.1530	0.1410	32	787	0.566	2.869	0.100	0.092
Construction Equipment Total	**41**										**2.945**	**15.900**	**0.424**	**0.39**

Table V-10
Multi-Use Facility (MUF) at the West Caemmerer Yard, Block 676 and 679
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Demolition, Excavation,Trucking -- Duration 8/05 - 4/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**13,990**		12.23	16.78	0.3934	0.3630	32		0.00264	0.00362	0.00008	0.00008
Trucks Idling, (average per truck), min	g/hour	3	**13,990**		37.45	46.41	1.3831	1.2725	32		0.00271	0.00335	0.00010	0.00009
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**13,990**				52.1540	1.0431	32				0.011	0.0002
Construction Activity Total											**0.005**	**0.007**	**0.011**	**0.000**
VMT-Off site	195,825				3.85	9.60	1.1177	0.406	32		0.07785	0.19417	0.02262	0.00822
2005 4th, 2006-all, 2007-all, 2008-1st Quarter Emissions, tons/quarter											**3.028**	**16.102**	**0.458**	**0.399**
General Stadium Finishing -- Duration 4/08-6/09														
Cherry Pickers	8	200	100	800	0.7500	4.3100	0.1010	0.0930	14	787	0.521	2.991	0.070	0.065
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	14	787	0.113	0.574	0.020	0.018
Cranes	8	240	115	920	0.7500	4.3100	0.1010	0.0930	14	787	0.599	3.440	0.081	0.074
Compressors (50% electric, # includes only diesel)	10	150	75	750	0.8700	4.4100	0.1530	0.1410	14	787	0.566	2.869	0.100	0.092
Construction Equipment Total	**28**										**1.798**	**9.874**	**0.270**	**0.249**
Demolition, Excavation,Trucking -- Duration 4/08 - 6/09		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**4,000**		11.64	16.10	0.3666	0.3382	14		0.00164	0.00227	0.00005	0.00005
Trucks Idling, (average per truck), min	g/hour	3	**4,000**		35.65	44.52	1.3488	1.2409	14		0.00168	0.00210	0.00006	0.00006
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**4,000**				52.1540	1.0431	14				0.007	0.0001
Construction Activity Total											**0.003**	**0.004**	**0.007**	**0.000**
VMT-Off site	92,000				3.85	9.60	1.1177	0.406	14		0.08360	0.20851	0.02429	0.00882
2008 2nd, 3rd, 4th 2009 1st & 2nd Quarter Emissions, tons/quarter											**1.885**	**10.087**	**0.302**	**0.258**

Note:
1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of 101/2 hrs/day

Table V-11
Convention Center Expansion Blocks 680,685 and 1088
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Deconstruction and Excavation, Stage 1 -- Duration 4/05-10/05														
Front End Loaders	8	400	240	1,920	0.9400	4.6700	0.0870	0.0800	5	787	1.566	7.779	0.145	0.133
Backhoes	8	125	75	600	0.8700	4.4100	0.1530	0.1410	5	787	0.453	2.295	0.080	0.073
Cherry Pickers	8	200	100	800	0.7500	4.3100	0.1010	0.0930	5	787	0.521	2.991	0.070	0.065
Excavators	6	225	135	810	0.7500	4.3100	0.1010	0.0930	5	787	0.527	3.029	0.071	0.065
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	5	787	0.075	0.430	0.010	0.009
Compressors (50% electric, # includes only diesel)	10	150	75	750	0.8700	4.4100	0.1530	0.1410	5	787	0.566	2.869	0.100	0.092
Construction Equipment Total	**41**										**3.707**	**19.393**	**0.475**	**0.438**
Demolition, Excavation,Trucking -- Duration:4/05 - 10/05		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	5,733					0.7528	0.1054	5				1.295	0.113
Topsoil, Demo Debris removal (Excavation)	lb/ton			**155,844**			0.0203	0.0064	5				0.949	0.299
Truck Loading	lb/ton			**155,844**			0.0139	0.0004	5				0.650	0.012
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**7,020**		13.7300	19.0400	0.4780	0.4420	5		0.00950	0.01317	0.00033	0.00031
Trucks Idling	g/hour	3	**7,020**		42.0300	52.6500	1.5146	1.3934	5		0.00976	0.01222	0.00035	0.00032
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**7,020**				52.1400	1.0431	5				0.036	0.0007
Construction Activity Total											**0.019**	**0.025**	**2.930**	**0.426**
VMT-Off site	5,265				3.85	9.60	1.1177	0.406	5		0.01340	0.03341	0.00389	0.00141
2005 2nd, 3rd Quarter Emissions, tons/quarter											**3.740**	**19.432**	**3.406**	**0.863**
Concrete, Steel Erection - Duration: 10/05 - 3/07														
Front End Loaders	4	400	240	960	0.9400	4.6700	0.0870	0.0800	18	787	0.783	3.889	0.072	0.067
Backhoes	12	125	75	900	0.8700	4.4100	0.1530	0.1410	18	787	0.679	3.443	0.119	0.110
Cherry Pickers	20	200	100	2,000	0.7500	4.3100	0.1010	0.0930	18	787	1.301	7.478	0.175	0.161
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	18	787	0.000	0.000	0.000	0.000
Cranes	6	240	115	690	0.7500	4.3100	0.1010	0.0930	18	787	0.449	2.580	0.060	0.056
Graders	2	250	180	360	0.7500	4.3100	0.1010	0.0930	18	787	0.234	1.346	0.032	0.029
Pavers	2	150	100	200	0.8700	4.4100	0.1530	0.1410	18	787	0.151	0.765	0.027	0.024
Pile Driving Rigs	2	200	100	200	0.7500	4.3100	0.1010	0.0930	18	787	0.130	0.748	0.018	0.016
Compressors (50% electric, # includes only diesel)	15	150	75	1,125	0.8700	4.4100	0.1530	0.1410	18	787	0.849	4.304	0.149	0.138
Construction Equipment Total	**63**										**4.577**	**24.553**	**0.653**	**0.601**

Table V-11
Convention Center Expansion Blocks 680,685 and 1088
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Demolition, Excavation,Trucking -- Duration 10/05 - 3/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**5,200**		12.80	17.52	0.4222	0.3899	18		0.00182	0.00249	0.00006	0.00006
Trucks Idling, (average per truck), min	g/hour	3	**5,200**		39.18	48.44	1.4212	1.3075	18		0.00187	0.00231	0.00007	0.00006
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**5,200**				52.1400	1.0431	18				0.007	0.0001
Construction Activity Total											**0.004**	**0.005**	**0.008**	**0.000**
VMT-Off site	101,800				3.85	9.60	1.1177	0.406	18		0.07195	0.17945	0.02090	0.00759
2005 4th, 2006- all, 2007-1st Quarter Emissions, tons/quarter											**4.652**	**24.738**	**0.681**	**0.609**
General Construction - Duration: 3/07 - 3/08														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	12	787	0.000	0.000	0.000	0.000
Backhoes	9	125	75	675	0.8700	4.4100	0.1530	0.1410	12	787	0.509	2.582	0.090	0.083
Cherry Pickers	20	200	100	2,000	0.7500	4.3100	0.1010	0.0930	12	787	1.301	7.478	0.175	0.161
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	12	787	0.000	0.000	0.000	0.000
Cranes	3	240	115	345	0.7500	4.3100	0.1010	0.0930	12	787	0.224	1.290	0.030	0.028
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	12	787	0.000	0.000	0.000	0.000
Pavers	0	150	100	0	0.8700	4.4100	0.1530	0.1410	12	787	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	12	787	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	10	150	75	750	0.8700	4.4100	0.1530	0.1410	12	787	0.566	2.869	0.100	0.092
Construction Equipment Total	**42**										**2.601**	**14.220**	**0.395**	**0.363**
Demolition, Excavation,Trucking -- Duration 3/07 - 3/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**1,568**		11.24	15.27	0.3338	0.3072	12		0.00072	0.00098	0.00002	0.00002
Trucks Idling, (average per truck), min	g/hour	3	**1,568**		34.41	42.21	1.3012	1.1971	12		0.00074	0.00091	0.00003	0.00003
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**1,568**				52.1400	1.0431	12				0.003	0.0001
Construction Activity Total											0.001	0.002	0.003	0.000
VMT-Off site	36,064				3.85	9.60	1.1177	0.406	12		0.03823	0.09536	0.01111	0.00404
2007 2nd, 3rd, 4th 2008 1st Quarter Emissions, tons/quarter											**2.641**	**14.317**	**0.409**	**0.368**

Table V-11
Convention Center Expansion Blocks 680,685 and 1088
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Excavation, Deconstruction and Debris Removal, Stage 2 -- Duration 4/07-9/07														
Front End Loaders	4	400	240	960	0.9400	4.6700	0.0870	0.0800	5	787	0.783	3.889	0.072	0.067
Cranes	2	240	115	230	0.7500	4.3100	0.1010	0.0930	5	787	0.150	0.860	0.020	0.019
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	5	787	0.340	1.722	0.060	0.055
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	5	787	0.260	1.496	0.035	0.032
Excavators	1	225	135	135	0.7500	4.3100	0.1010	0.0930	5	787	0.088	0.505	0.012	0.011
Compressors (50% electric, # includes only diesel)	6	150	75	450	0.8700	4.4100	0.1530	0.1410	5	787	0.340	1.722	0.060	0.055
Construction Equipment Total	23										1.960	10.193	0.259	0.238
Demolition, Excavation,Trucking -- Duration 4/07 - 9/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	1,433					0.7528	0.1054	5				0.324	0.028
Topsoil removal (Excavation)	lb/ton			**84,656**			0.0203	0.0064	5				0.516	0.163
Truck Loading	lb/ton			**84,656**			0.0139	0.0004	5				0.353	0.006
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**3,815**		12.72	17.55	0.4278	0.3957	5		0.00478	0.00660	0.00016	0.00015
Trucks Idling, (average per truck), min	g/hour	3	**3,815**		38.95	48.55	1.4155	1.3023	5		0.00491	0.00613	0.00018	0.00016
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**3,815**				52.1400	1.0431	5				0.020	0.0004
Construction Activity Total											***0.010***	***0.013***	***1.212***	***0.198***
VMT-Off site	53,460				3.85	9.60	1.1177	0.406	5		0.13602	0.33926	0.03952	0.01436
2nd stage - 2007 - 2nd and 3rd Quarter Emissions, tons/quarter											**2.106**	**10.545**	**1.511**	**0.451**
Concrete, Steel Erection - Duration: 9/07 - 9/08														
Cherry Pickers	10	200	100	1,000	0.7500	4.3100	0.1010	0.0930	12	787	0.651	3.739	0.088	0.081
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	12	787	0.340	1.722	0.060	0.055
Cranes	3	240	115	345	0.7500	4.3100	0.1010	0.0930	12	787	0.224	1.290	0.030	0.028
Front End Loaders	6	400	240	1,440	0.9400	4.6700	0.0870	0.0800	12	787	1.174	5.834	0.109	0.100
Scrapers	0	250	180	0	0.7500	4.3100	0.1010	0.0930	12	787	0.000	0.000	0.000	0.000
Compactor	4	150	100	400	0.8700	4.4100	0.1530	0.1410	12	787	0.302	1.530	0.053	0.049
Pile Driving Rigs	2	200	100	200	0.7500	4.3100	0.1010	0.0930	12	787	0.130	0.748	0.018	0.016
Compressors (50% electric, # includes only diesel)	8	150	75	563	0.8700	4.4100	0.1530	0.1410	12	787	0.425	2.152	0.075	0.069
Construction Equipment Total	**39**										**3.246**	**17.015**	**0.432**	**0.397**

Table V-11
Convention Center Expansion Blocks 680,685 and 1088
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Concrete, Steel Erection - Duration: 9/07 - 9/08		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**2,600**		12.33	16.76	0.3943	0.3638	12		0.00132	0.00179	0.00004	0.00004
Trucks Idling, (average per truck), min	g/hour	3	**2,600**		37.75	46.34	1.3745	1.2646	12		0.00135	0.00166	0.00005	0.00005
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**2,600**				52.1400	1.0431	12				0.006	0.0001
Construction Activity Total											**0.003**	**0.003**	**0.006**	**0.000**
VMT-Off site	50,900				3.85	9.60	1.1177	0.406	12		0.05396	0.13459	0.01568	0.00569
2nd stage - 2007 - 4th -2008 1st, 2nd & 3rd Quarter Emissions, tons/quarter											**3.302**	**17.153**	**0.453**	**0.403**
General Construction - Duration 9/08 - 6/09														
Cherry Pickers	10	200	100	1,000	0.7500	4.3100	0.1010	0.0930	9	787	0.651	3.739	0.088	0.081
Backhoes	0	125	75	0	0.8700	4.4100	0.1530	0.1410	9	787	0.000	0.000	0.000	0.000
Cranes	3	240	115	345	0.7500	4.3100	0.1010	0.0930	9	787	0.224	1.290	0.030	0.028
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	9	787	0.000	0.000	0.000	0.000
Scrapers	0	250	180	0	0.7500	4.3100	0.1010	0.0930	9	787	0.000	0.000	0.000	0.000
Compactor	0	150	100	0	0.8700	4.4100	0.1530	0.1410	9	787	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	9	787	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	5	150	75	375	0.8700	4.4100	0.1530	0.1410	9	787	0.283	1.435	0.050	0.046
Construction Equipment Total	**18**										**1.158**	**6.464**	**0.168**	**0.154**
General Construction - Duration 9/08 - 6/09		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054						
Topsoil removal (Excavation)	lb/ton						0.0203	0.0064						
Truck Loading	lb/ton						0.0139	0.0004						
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**162**		10.59	14.63	0.3090	0.2844	9		0.00009	0.00013	0.000003	0.000003
Trucks Idling, (average per truck), min	g/hour	3	**162**		32.42	40.46	1.2714	1.1697	9		0.00010	0.00012	0.000004	0.000003
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**162**				52.1400	1.0431	9				0.000462	0.000009
Construction Activity Total											**0.0002**	**0.0003**	**0.0005**	**0.0000**
VMT-Off site	3,726				3.85	9.60	1.1177	0.406	9		0.00527	0.01314	0.00153	0.00056
2nd stage - 2008- 4th, 2009 - 1st & 2nd Quarter Emissions, tons/quarter											**1.158**	**6.464**	**0.168**	**0.154**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of 101/2 hrs/day

Convention Center Hotel - Between 41st 42nd Streets 11th Avenue - Block 1089
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading, and Deconstruction of Existing Buildings) -- Duration 4 /07-09/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	5	**787**	0.391	1.945	0.036	0.033
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	5	**787**	0.340	1.722	0.060	0.055
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	5	**787**	0.000	0.000	0.000	0.000
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	5	**787**	0.130	0.748	0.018	0.016
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	5	**787**	0.176	1.010	0.024	0.022
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	5	**787**	0.117	0.673	0.016	0.015
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	5	**787**	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	5	**787**	0.170	0.861	0.030	0.028
Construction Equipment Total	16										1.324	6.957	0.183	0.168
Demolition, Excavation,Trucking -- Duration 4 /07-9/07		*Number of Hours*	*Number of Trucks*	*Quantity of Material*										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	2,460					0.7528	0.1054	5				0.556	0.049
Topsoil removal (Excavation)	lb/ton			**63,000**			0.0203	0.0064	5				0.384	0.121
Truck Loading	lb/ton			**63,000**			0.0139	0.0004	5				0.262	0.004
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**3,300**		11.94	15.96	0.3607	0.3319	5		0.00081	0.00108	0.00002	0.00002
Trucks Idling, (average per truck), min	g/hour	3	**3,300**		36.55	44.13	1.3335	1.2268	5		0.00399	0.00482	0.00015	0.00013
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**3,300**				52.1540	1.0431	5				0.004	0.0001
Construction Activity Total											0.005	0.006	1.205	0.174
VMT-Off site	1,980				3.85	9.60	1.1177	0.406	5		0.00504	0.01257	0.00146	0.00053
2007 2nd, 3rd Quarterly Emissions, tons / quarter											**1.334**	**6.976**	**1.389**	**0.342**
Building construction -- Duration 9 /07-11/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	14	**787**	0.391	1.945	0.036	0.033
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	14	**787**	0.226	1.148	0.040	0.037
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	14	**787**	0.075	0.430	0.010	0.009
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1010	0.0930	14	**787**	0.195	1.122	0.026	0.024
Compressors (50% electric, # includes only diesel)	8	150	75	563	0.8700	4.4100	0.1530	0.1410	14	**787**	0.425	2.152	0.075	0.069
Construction Equipment Total	18										1.312	6.796	0.187	0.172
2007 4th, 2008 1st, 2nd, 3rd, 4th Quarterly Emissions, tons/quarter											**1.312**	**6.796**	**0.187**	**0.172**

Convention Center Hotel - Between 41st 42nd Streets 11th Avenue - Block 1089
Estimated Quarterly CO, NOx, PM10 and PM2.5 Emission Rates from On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Building construction -- Duration 1 /09-4/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	6	**787**	0.000	0.000	0.000	0.000
Backhoes	0	125	75	0	0.8700	4.4100	0.1530	0.1410	6	**787**	0.000	0.000	0.000	0.000
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	6	**787**	0.075	0.430	0.010	0.009
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1010	0.0930	6	**787**	0.195	1.122	0.026	0.024
Compressors (50% electric, # includes only diesel)	5	150	75	375	0.8700	4.4100	0.1530	0.1410	6	**787**	0.283	1.435	0.050	0.046
Construction Equipment Total	9										0.553	2.986	0.086	0.079
2009 1st, 2nd Quarterly Emissions, tons/quarter											**0.553**	**2.986**	**0.086**	**0.079**
Building construction -- Duration 5 /09-12/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	7	**787**	0.000	0.000	0.000	0.000
Backhoes	0	125	75	0	0.8700	4.4100	0.1530	0.1410	7	**787**	0.000	0.000	0.000	0.000
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	7	**787**	0.000	0.000	0.000	0.000
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	7	**787**	0.130	0.748	0.018	0.016
Compressors (50% electric, # includes only diesel)	3	150	75	188	0.8700	4.4100	0.1530	0.1410	7	**787**	0.142	0.717	0.025	0.023
Construction Equipment Total	5										0.272	1.465	0.042	0.039
2009 3rd, & 4th Quarterly Emissions, tons/quarter											**0.272**	**1.465**	**0.042**	**0.039**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for private sites based on one shift of 10 1/2 hrs/day

Table V-13
Launch Site A - Block 697 - 11th Avenue 26th Street
Estimated Quarterly Emissions of CO, NOx, PM10 and PM2.5 From On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading, Trenching) -- Duration: 5/05 - 7/05														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	2	1,200	0.597	2.965	0.055	0.051
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	2	1,200	0.173	0.875	0.030	0.028
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	2	1,200	0.000	0.000	0.000	0.000
Cherry Pickers	4	200	100	400	0.7500	4.3100	0.1010	0.0930	2	1,200	0.397	2.280	0.053	0.049
Excavators/Buldozers	1	225	135	135	0.7500	4.3100	0.1010	0.0930	2	1,200	0.134	0.770	0.018	0.017
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	2	1,200	0.179	1.026	0.024	0.022
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	2	1,200	0.000	0.000	0.000	0.000
Compactor	1	150	100	100	0.8700	4.4100	0.1530	0.1410	2	1,200	0.115	0.583	0.020	0.019
Compressors (50% electric, # includes only diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	2	1,200	0.259	1.313	0.046	0.042
Construction Equipment Total	**14**										**1.853**	**9.812**	**0.247**	**0.227**
Demolition, Excavation,Trucking -- Duration: 5/05 - 7/05		***Number of Hours***	***Number of Trucks***	***Quantity of***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	1,228					0.7528	0.1054	2				0.693	0.024
Topsoil removal (Excavation)	lb/ton			**35,280**			0.0203	0.0064	2				0.537	0.169
Truck Loading	lb/ton			**35,280**			0.0139	0.0004	2				0.367	0.002
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**1,870**		13.73	42.03	0.4780	0.4420	2		0.00068	0.00208	0.00002	0.00002
Trucks Idling, (average per truck), min	g/hour	3	**1,870**		19.04	52.65	1.5146	1.4155	2		0.00294	0.00814	0.00023	0.00022
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**1,870**				52.1540	1.0431	2				0.003	0.0001
Construction Activity Total											**0.004**	**0.010**	**1.600**	**0.196**
VMT-Off site	2,805				3.85	9.60	1.1177	0.406	2		0.01784	0.04450	0.00518	0.00188
2005 2nd and 3rd Quarterly Emissions, tons/quarter											**1.874**	**9.867**	**1.852**	**0.425**
TBM Mining and Spoils Removal -- Duration:7/05 - 1/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	18	1,200	0.597	2.965	0.055	0.051
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	18	1,200	0.518	2.625	0.091	0.084
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	18	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	18	1,200	0.198	1.140	0.027	0.025
Compressors	4	150	75	300	0.8700	4.4100	0.1530	0.1410	18	1,200	0.345	1.750	0.061	0.056
Construction Equipment Total	15										1.772	9.136	0.249	0.229
TBM Mining and Spoils Removal -- Duration:7/05 - 1/07		***Number of Hours***	***Number of Trucks***	***Quantity of***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour						0.7528	0.1054	18					
TBM Spoils Removal (Excavation)	lb/ton			**297,000**			0.0203	0.0064	18				0.502	0.158
Truck Loading	lb/ton			**297,000**			0.0139	0.0004	18				0.343	0.020
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**14,670**		12.80	17.52	0.4529	0.4189	18		0.00055	0.00076	0.00002	0.00002
Trucks Idling, (average per truck), min	g/hour	3	**14,670**		39.18	48.44	1.4651	1.3479	18		0.00528	0.00653	0.00020	0.00018
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**14,670**				52.1540	1.0431	18				0.002	0.00004
Construction Activity Total											**0.006**	**0.007**	**0.848**	**0.178**
VMT-Off site	22,005				3.85	9.60	1.1177	0.406	18		0.01555	0.03879	0.00452	0.00164
2005 3rd, 4th, 2006 1st-4th Quarterly Emissions, tons/quarter											**1.794**	**9.182**	**1.102**	**0.409**

Table V-13
Launch Site A - Block 697 - 11th Avenue 26th Street
Estimated Quarterly Emissions of CO, NOx, PM10 and PM2.5 From On-Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Shaft, Cavern and Tunnel Lining, Steel Installation (within shafts) - Duration: 1/07 - 5/07														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	4	1,200	0.000	0.000	0.000	0.000
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	4	1,200	0.345	1.750	0.061	0.056
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	4	1,200	0.114	0.656	0.015	0.014
Shotcrete Pump	1	125	75	75	0.8700	4.4100	0.1530	0.1410	4	1,200	0.086	0.438	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	4	1,200	0.198	1.140	0.027	0.025
Compressors	2	150	75	113	0.8700	4.4100	0.1530	0.1410	4	1,200	0.129	0.656	0.023	0.021
Construction Equipment Total	10										0.874	4.640	0.141	0.130
2007 1st, 2nd Quarterly Emissions, tons/quarter											**0.874**	**4.640**	**0.141**	**0.130**
Track and Systems Installation (largely in shaft)- Duration: 5/07 -12/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	31	1,200	0.000	0.000	0.000	0.000
Backhoes	3	125	75	225	0.8700	4.4100	0.1530	0.1410	31	1,200	0.259	1.313	0.046	0.042
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	31	1,200	0.114	0.656	0.015	0.014
Shotcrete Pump	1	125	75	75	0.8700	4.4100	0.1530	0.1410	31	1,200	0.086	0.438	0.015	0.014
Cherry Pickers	3	200	100	300	0.7500	4.3100	0.1010	0.0930	31	1,200	0.298	1.710	0.040	0.037
Compressors	2	150	75	113	0.8700	4.4100	0.1530	0.1410	31	1,200	0.129	0.656	0.023	0.021
Construction Equipment Total	10										0.886	4.772	0.139	0.128
2007 3rd & 4th quarter, all 2008 and all 2009 Quarterly Emissions, tons/quarter											**0.886**	**4.772**	**0.139**	**0.128**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 1200 hrs for transit sites based on one shift of 16 hrs/day

Table V-14
Midblock Park and Boulevard Block 705 - Between 33rd 34th Street
Estimated Quarterly Emissions of CO, NOx, PM10 PM2.5 from On Site Construction Activities

Construction Equipment & Activity	Number of Units	Equipment Rated HP [2] hp/hr	Average Equipment Usage of HP [2] hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors [3] CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading, Trenching+A36) and Deconstruction of Existing Buildings -- Duration 12/08 - 4/09														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	4	787	0.391	1.945	0.036	0.033
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	4	787	0.226	1.148	0.040	0.037
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	4	787	0.000	0.000	0.000	0.000
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	4	787	0.130	0.748	0.018	0.016
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	4	787	0.176	1.010	0.024	0.022
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	4	787	0.117	0.673	0.016	0.015
Compactor	1	150	100	100	0.8700	4.4100	0.1530	0.1410	4	787	0.075	0.383	0.013	0.012
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	4	787	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	2	150	75	150	0.8700	4.4100	0.1530	0.1410	4	787	0.113	0.574	0.020	0.018
Construction Equipment Total	**14**										**1.229**	**6.479**	**0.166**	**0.153**
Demolition, Excavation,Trucking -- Duration 12/08 - 4/09		**Number of Hours**	**Number of Trucks**	**Quantity of Material**										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), **lb/hr**	lb/hour	1,638					0.7528	0.1054	4				0.462	0.032
Topsoil removal (Excavation)	lb/ton			**10,352**			0.0203	0.0064	4				0.079	0.025
Truck Loading	lb/ton			**10,352**			0.0139	0.0004	4				0.054	0.001
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**660**		9.91	13.97	0.2595	0.2388	4		0.00023	0.00033	0.00001	0.00001
Trucks Idling, (average per truck), min	g/hour	3	**660**		30.35	38.63	1.2117	1.1148	4		0.00083	0.00105	0.00003	0.00003
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**660**				52.1540	1.0431	4				0.001	0.00002
Construction Activity Total											**0.001**	**0.001**	**0.596**	**0.058**
VMT-Off site	897				3.85	9.60	1.1177	0.406	4		0.00285	0.00712	0.00083	0.00030
2009 1st & 2nd Quarter Emissions, tons/quarter											**1.233**	**6.488**	**0.763**	**0.211**
Earth Moving Equipment (Grading, Planting and Landscaping) -- Duration 4/09 - 12/09														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	8	1,200	0.597	2.965	0.055	0.051
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	8	1,200	0.173	0.875	0.030	0.028
Cranes	0	240	115	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Cherry Pickers	1	200	100	100	0.7500	4.3100	0.1010	0.0930	8	1,200	0.099	0.570	0.013	0.012
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Compactor	1	150	100	100	0.8700	4.4100	0.1530	0.1410	6	787	0.075	0.383	0.013	0.012
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Compressors (50% electric, # includes only diesel)	0	150	75	0	0.8700	4.4100	0.1530	0.1410	8	1,200	0.000	0.000	0.000	0.000
Construction Equipment Total	6										0.944	4.793	0.112	0.103
2009 2nd, 3rd, 4th Quarter Emissions, tons/quarter											**0.944**	**4.793**	**0.112**	**0.103**

Note:
1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 787 hrs for non-transit sites based on one shift of 10 1/2 hrs/day

Table V-15
Fan Plant Site N
Block 763
40th Street 8th Avenue

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Earth Moving Equipment (Excavation, Grading) -- Duration 6/07 - 7/07														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	1	1,200	0.597	2.965	0.055	0.051
Backhoes	6	125	75	450	0.8700	4.4100	0.1530	0.1410	1	1,200	0.518	2.625	0.091	0.084
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	1	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	1	1,200	0.198	1.140	0.027	0.025
Excavators/Buldozers	2	225	135	270	0.7500	4.3100	0.1010	0.0930	1	1,200	0.268	1.539	0.036	0.033
Graders	1	250	180	180	0.7500	4.3100	0.1010	0.0930	1	1,200	0.179	1.026	0.024	0.022
Compactor	1	150	100	100	0.8700	4.4100	0.1530	0.1410	1	1,200	0.115	0.583	0.020	0.019
Pile Driving Rigs	1	200	100	100	0.7500	4.3100	0.1010	0.0930	1	1,200	0.099	0.570	0.013	0.012
Compressors (50% electric, # includes only diesel)	3	150	75	225	0.8700	4.4100	0.1530	0.1410	1	1,200	0.259	1.313	0.046	0.042
Construction Equipment Total	**19**										**2.347**	**12.418**	**0.328**	**0.302**
Demolition, Excavation,Trucking -- Duration 6/07 - 7/07		***Number of Hours***	***Number of Trucks***	***Quantity of Material***										
Construction Activity	**Units**			**tons**			**PM10**	**PM2.5**						
Bulldozing-(Demolition), lb/hr	lb/hour	1,230					0.7528	0.1054	1				1.389	0.024
Topsoil removal (Excavation)	lb/ton			**1,860**			0.0203	0.0064	1				0.057	0.018
Truck Loading	lb/ton			**1,860**			0.0139	0.0004	1				0.039	0.000
Trucks Exhaust, (g/veh-mile)	g/veh-mile		**124**		11.94	15.96	0.3607	0.3319	1		0.00007	0.00009	0.00000	0.00000
Trucks Idling, (average per truck), min	g/hour	3	**124**		36.55	44.13	1.3335	1.2268	1		0.00075	0.00090	0.00003	0.00003
Trucks Fugitive Dust, (g/veh-mile)	g/veh-mile		**124**				52.1540	1.0431	1				0.0003	0.00001
Construction Activity Total											**0.001**	**0.001**	**1.485**	**0.042**
VMT-Off site	124				3.85	9.60	1.1177	0.406	1		0.00158	0.00393	0.00046	0.00017
2007 2nd Quarter Emissions, tons/quarter											**2.349**	**12.422**	**1.813**	**0.344**
Drill and Blast Mining, Spoils Removal -- Duration 7/07 - 3/08														
Front End Loaders	2	400	240	480	0.9400	4.6700	0.0870	0.0800	8	1,200	0.597	2.965	0.055	0.051
Backhoes	4	125	75	300	0.8700	4.4100	0.1530	0.1410	8	1,200	0.345	1.750	0.061	0.056
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	8	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	8	1,200	0.198	1.140	0.027	0.025
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	8	1,200	0.000	0.000	0.000	0.000
Compressors	1	150	75	38	0.8700	4.4100	0.1530	0.1410	8	1,200	0.043	0.219	0.008	0.007
Construction Equipment Total	**10**										**1.298**	**6.730**	**0.166**	**0.152**
2007 3rd, 4th and 2008 1st Quarter Emissions, tons/quarter											**1.298**	**6.730**	**0.166**	**0.152**

Table V-15
Fan Plant Site N
Block 763
40th Street 8th Avenue

Construction Equipment & Activity	Number of Units	Equipment Rated HP (2) hp/hr	Average Equipment Usage of HP (2) hrs/day	Total Utilized Equipment HP (all units) hp	Pollutant Emission Factors (3) CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	Construction Activity Duration Months	(4) hrs/quarter	Estimated Pollutant Quarterly Emissions CO tons	NOx tons	PM10 tons	PM2.5 tons
Reinforce Tunnel, Shaft and System Space - Duration: 3/08 - 6/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	15	1,200	0.000	0.000	0.000	0.000
Backhoes	2	125	75	150	0.8700	4.4100	0.1530	0.1410	15	1,200	0.173	0.875	0.030	0.028
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	15	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	15	1,200	0.198	1.140	0.027	0.025
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	15	1,200	0.000	0.000	0.000	0.000
Shotcrete Pump	1	125	75	75	0.8700	4.4100	0.1530	0.1410	15	1,200	0.086	0.438	0.015	0.014
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	15	1,200	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	15	1,200	0.000	0.000	0.000	0.000
Compressors	2	150	75	113	0.8700	4.4100	0.1530	0.1410	15	1,200	0.129	0.656	0.023	0.021
Construction Equipment Total	8										0.571	3.765	0.110	0.102
2008 2nd, 3rd, 4th - 2009 1sr, 2nd Quarterly Emissions, tons/quarter											**0.571**	**3.765**	**0.110**	**0.102**
System Space Construction - Duration: 6/09 - 9/09														
Front End Loaders	0	400	240	0	0.9400	4.6700	0.0870	0.0800	3	1,200	0.000	0.000	0.000	0.000
Backhoes	1	125	75	75	0.8700	4.4100	0.1530	0.1410	3	1,200	0.086	0.438	0.015	0.014
Cranes	1	240	115	115	0.7500	4.3100	0.1010	0.0930	3	1,200	0.114	0.656	0.015	0.014
Cherry Pickers	2	200	100	200	0.7500	4.3100	0.1010	0.0930	3	1,200	0.198	1.140	0.027	0.025
Excavators/Buldozers	0	225	135	0	0.7500	4.3100	0.1010	0.0930	3	1,200	0.000	0.000	0.000	0.000
Graders	0	250	180	0	0.7500	4.3100	0.1010	0.0930	3	1,200	0.000	0.000	0.000	0.000
Pile Driving Rigs	0	200	100	0	0.7500	4.3100	0.1010	0.0930	3	1,200	0.000	0.000	0.000	0.000
Compressors	2	150	75	113	0.8700	4.4100	0.1530	0.1410	3	1,200	0.129	0.656	0.023	0.021
Construction Equipment Total	**6**										**0.528**	**2.890**	**0.080**	**0.074**
2009 3rd, 4th Quarterly Emissions, tons/quarter											**0.528**	**2.890**	**0.080**	**0.074**

Note:

1. All construction equipment engines are diesel-fueled 20% Tier 1 and 80% Tier 2 engines 1,200
2. Construction equipment rated hp and average power usage are project-specific data
3. Emission factors for all pollutants are from "Exhaust and Crancase Emission Factors for Nonroad Engine Modeling - Compression-Ignition "Report No.NR-009A, November 2002, USEPA 420-P-02-016, Office of Mobil Sources, Assessment and Modeling Division Tables 3 thru 5, Summary of the Basis for the Zero-Hour Steady-State CI Emission Factors in Draft NONROAD2002 for Tier 1/2 adjusted for ULSD and DF = 1.2 for PM
4. One quarter = 75 working days or 1200 hrs for transit sites based on two shifts, 16 hrs/day total

Table V-16
PM10 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1828	0.1828	0.1871	0.1871	0.1871	0.1871	0.1871	0.0861	0.0861	0.0424	0.0424
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2052	1.2052	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0015**	**0.1842**	**1.3879**	**1.3922**	**0.1871**	**0.1871**	**0.1871**	**0.1871**	**0.0861**	**0.0861**	**0.0424**	**0.0424**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2797	0.2797	0.2797	0.2491	0.2491	0.2491	0.2491	0.2491	0.2188	0.1161	0.1161	0.1161	0.1161
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2126	1.2126	1.2126	1.4408	1.4408	1.4408	1.4408	1.4408	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0040	0.0040	0.0069	0.0069	0.0069	0.0069	0.0069	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4963**	**1.4963**	**1.4963**	**1.6969**	**1.6969**	**1.6969**	**1.6969**	**1.6969**	**0.2188**	**0.1161**	**0.1161**	**0.1161**	**0.1161**
Launch Site A	Equipment	0.0000	0.2469	0.2469	0.2491	0.2491	0.2491	0.2491	0.2491	0.1407	0.1407	0.1389	0.1389	0.1389	0.1389	0.1389	0.1389	0.1389	0.1389	0.1389	0.1389
	Activity	0.0000	1.6004	1.6004	0.8483	0.8483	0.8483	0.8483	0.8483	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0052	0.0052	0.0045	0.0045	0.0045	0.0045	0.0045	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**1.8525**	**1.8525**	**1.1019**	**1.1019**	**1.1019**	**1.1019**	**1.1019**	**0.1407**	**0.1407**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**	**0.1389**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3277	0.1656	0.1656	0.1656	0.1104	0.1104	0.1104	0.1104	0.1104	0.0800	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4845	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.8126**	**0.1656**	**0.1656**	**0.1656**	**0.1104**	**0.1104**	**0.1104**	**0.1104**	**0.1104**	**0.0800**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	0.1635	0.4561	0.1635	0.1635	0.3216	0.3216	0.3216	0.3216	0.3216	0.3216	0.1635	0.1635	0.1635	0.1635	0.1635	0.1635	0.1635	0.1635
	Activity	0.0000	0.0000	0.0000	1.8790	0.0000	0.0000	0.5100	0.5100	0.5100	0.5100	0.5100	0.5100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.1635**	**2.3369**	**0.1635**	**0.1635**	**0.8325**	**0.8325**	**0.8325**	**0.8325**	**0.8325**	**0.8325**	**0.1635**	**0.1635**	**0.1635**	**0.1635**	**0.1635**	**0.1635**	**0.1635**	**0.1635**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1662	0.1662	0.1122	0.1122	0.1122
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5963	0.5963	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	0.0008	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.7633**	**0.7633**	**0.1122**	**0.1122**	**0.1122**
Block 675	Equipment	0.0000	0.0000	0.1962	0.1962	0.2382	0.2382	0.2035	0.2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	2.2212	2.2212	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0032	0.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**2.4206**	**2.4206**	**0.2382**	**0.2382**	**0.2035**	**0.2035**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3505	0.3505	0.2488	0.2488	0.3360	0.3360	0.3360	0.3360	0.3360	0.3360	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0423	1.0423	0.0016	0.0016	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012	0.0032	0.0032	0.0085	0.0085	0.0240	0.0240	0.0240	0.0240	0.0240	0.0240	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0012**	**0.0012**	**1.3960**	**1.3960**	**0.2589**	**0.2589**	**0.3660**	**0.3660**	**0.3660**	**0.3660**	**0.3660**	**0.3660**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-16
PM10 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	0.1746	0.1746	0.3485	0.3485	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678	0.2678
	Activity	0.0000	0.7966	0.7966	2.7912	2.7912	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0009	0.0009	0.0133	0.0133	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.9721**	**0.9721**	**3.1530**	**3.1530**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**	**0.2678**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3041	0.3041	0.2338	0.2338	0.2501	0.2501	0.0674	0.0674	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1059	1.1059	0.0039	0.0039	0.0004	0.0004	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0002	0.0425	0.0425	0.0001	0.0001	0.0031	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4102**	**1.4102**	**0.2802**	**0.2802**	**0.2506**	**0.2506**	**0.0708**	**0.0708**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	0.2812	0.2812	0.4236	0.4236	0.4236	0.4236	0.4236	0.4236	0.4236	0.4236	0.4236	0.4236	0.2702	0.2702	0.2702	0.2702	0.2702	0.0000	0.0000
	Activity	0.0000	1.3508	1.3508	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114	0.0075	0.0075	0.0075	0.0075	0.0075	0.0000	0.0000
	VMT-Off site	0.0000	0.0040	0.0040	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0243	0.0243	0.0243	0.0243	0.0243	0.0000	0.0000
	Total	**0.0000**	**1.6360**	**1.6360**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.4576**	**0.3019**	**0.3019**	**0.3019**	**0.3019**	**0.3019**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.4752	0.4752	0.6525	0.6525	0.6525	0.6525	0.6525	0.6525	0.3946	0.3946	0.3946	0.3946	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stage 1	Activity	0.0000	2.9305	2.9305	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075	0.0034	0.0034	0.0034	0.0034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0039	0.0039	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0111	0.0111	0.0111	0.0111	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**3.4096**	**3.4096**	**0.6810**	**0.6810**	**0.6810**	**0.6810**	**0.6810**	**0.6810**	**0.4091**	**0.4091**	**0.4091**	**0.4091**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2589	0.2589	0.4315	0.4315	0.4315	0.4315	0.1676	0.1676	0.1676	0.0000	0.0000
Stage 2	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2121	1.2121	0.0057	0.0057	0.0057	0.0057	0.0005	0.0005	0.0005	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0395	0.0157	0.0157	0.0157	0.0157	0.0015	0.0015	0.0015	0.0015	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.5106**	**1.4868**	**0.4529**	**0.4529**	**0.4529**	**0.4387**	**0.1696**	**0.1696**	**0.1696**	**0.0000**	**0.0000**

PM10 QUARTERLY TOTALS BY SOURCE (ALL SITES)

	2005				2006				2007				2008				2009			
Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05
Equipment	0.0000	1.1779	1.5376	2.3260	2.0755	1.9948	2.7726	3.0523	2.5685	3.0799	2.9891	3.1659	2.8252	2.2219	2.1545	2.0264	1.4868	1.4329	0.9210	0.8410
Activity	0.0000	6.6783	8.8995	7.7587	3.6585	0.8673	3.5255	4.7380	1.7470	4.4396	4.3893	3.1828	1.4675	1.4601	1.4599	0.6102	0.6042	0.0079	0.0000	0.0000
VMT-Off site	0.0000	0.0139	0.0172	0.0663	0.0625	0.0492	0.0524	0.0563	0.1009	0.1310	0.0813	0.0813	0.0835	0.0740	0.0568	0.0507	0.0266	0.0258	0.0000	0.0000
Total	0.0000	7.8701	10.4542	10.1510	5.7964	2.9112	6.3505	7.8467	4.4164	7.6505	7.4597	6.4301	4.3762	3.7561	3.6711	2.6872	2.1177	1.4666	0.9210	0.8410

PM10 YEARLY TOTALS BY SOURCE (ALL SITES)

	YEAR				
Source	2005	2006	2007	2008	2009
Equipment	5.0416	9.8952	11.8034	9.2280	4.6818
Activity	23.3364	12.7893	13.7587	4.9977	0.6122
VMT-Off site	0.0974	0.2204	0.3946	0.2649	0.0525
Total	28.4754	22.9049	25.9567	14.4906	5.3464

Table V-17
PM2.5 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1683	0.1683	0.1723	0.1723	0.1723	0.1723	0.1723	0.0794	0.0794	0.0391	0.0391
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1736	0.1736	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0005**	**0.1689**	**0.3419**	**0.3459**	**0.1723**	**0.1723**	**0.1723**	**0.1723**	**0.0794**	**0.0794**	**0.0391**	**0.0391**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2576	0.2576	0.2576	0.2294	0.2294	0.2294	0.2294	0.2294	0.2015	0.1069	0.1069	0.1069	0.1069
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2083	0.2083	0.2083	0.2952	0.2952	0.2952	0.2952	0.2952	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014	0.0014	0.0025	0.0025	0.0025	0.0025	0.0025	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4674**	**0.4674**	**0.4674**	**0.5271**	**0.5271**	**0.5271**	**0.5271**	**0.5271**	**0.2015**	**0.1069**	**0.1069**	**0.1069**	**0.1069**
Launch Site A	Equipment	0.0000	0.2273	0.2273	0.2294	0.2294	0.2294	0.2294	0.2294	0.1297	0.1297	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280	0.1280
	Activity	0.0000	0.1957	0.1957	0.1777	0.1777	0.1777	0.1777	0.1777	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0019	0.0019	0.0016	0.0016	0.0016	0.0016	0.0016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.4249**	**0.4249**	**0.4088**	**0.4088**	**0.4088**	**0.4088**	**0.4088**	**0.1297**	**0.1297**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**	**0.1280**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3018	0.1525	0.1525	0.1525	0.1017	0.1017	0.1017	0.1017	0.1017	0.0737	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0423	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.3442**	**0.1525**	**0.1525**	**0.1525**	**0.1017**	**0.1017**	**0.1017**	**0.1017**	**0.1017**	**0.0737**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	0.1507	0.4201	0.1507	0.1507	0.2962	0.2962	0.2962	0.2962	0.2962	0.2962	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507	0.1507
	Activity	0.0000	0.0000	0.0000	0.2711	0.0000	0.0000	0.1060	0.1060	0.1060	0.1060	0.1060	0.1060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0006	0.0000	0.0000	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.1507**	**0.6919**	**0.1507**	**0.1507**	**0.4024**	**0.4024**	**0.4024**	**0.4024**	**0.4024**	**0.4024**	**0.1507**	**0.1507**	**0.1507**	**0.1507**	**0.1507**	**0.1507**	**0.1507**	**0.1507**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1530	0.1530	0.1033	0.1033	0.1033
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0579	0.0579	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0003	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2112**	**0.2112**	**0.1033**	**0.1033**	**0.1033**
Block 675	Equipment	0.0000	0.0000	0.1806	0.1806	0.2194	0.2194	0.1875	0.1875	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.3653	0.3653	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0012	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.5471**	**0.5471**	**0.2194**	**0.2194**	**0.1875**	**0.1875**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3214	0.3214	0.2281	0.2281	0.3081	0.3081	0.3081	0.3081	0.3081	0.3081	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1665	0.1665	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012	0.0031	0.0031	0.0087	0.0087	0.0087	0.0087	0.0087	0.0087	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4891**	**0.4891**	**0.2313**	**0.2313**	**0.3170**	**0.3170**	**0.3170**	**0.3170**	**0.3170**	**0.3170**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-17
PM2.5 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

Site	Source	2005				2006				2007				2008				2009			
		1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	0.1608	0.1608	0.3210	0.3210	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466	0.2466
	Activity	0.0000	0.0817	0.0817	0.5321	0.5321	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0003	0.0003	0.0048	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.2428**	**0.2428**	**0.8580**	**0.8580**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**	**0.2466**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2787	0.2787	0.2144	0.2144	0.2294	0.2294	0.0621	0.0621	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1299	0.1299	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0154	0.0154	0.0000	0.0000	0.0011	0.0011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4087**	**0.4087**	**0.2301**	**0.2301**	**0.2294**	**0.2294**	**0.0633**	**0.0633**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	0.2590	0.2590	0.3901	0.3901	0.3901	0.3901	0.3901	0.3901	0.3901	0.3901	0.3901	0.3901	0.2489	0.2489	0.2489	0.2489	0.2489	0.0000	0.0000
	Activity	0.0000	0.1855	0.1855	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000
	VMT-Off site	0.0000	0.0015	0.0015	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0088	0.0088	0.0088	0.0088	0.0088	0.0000	0.0000
	Total	**0.0000**	**0.4460**	**0.4460**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.3987**	**0.2579**	**0.2579**	**0.2579**	**0.2579**	**0.2579**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.4376	0.4376	0.6010	0.6010	0.6010	0.6010	0.6010	0.6010	0.3635	0.3635	0.3635	0.3635	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stage 1	Activity	0.0000	0.4256	0.4256	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0014	0.0014	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076	0.0040	0.0040	0.0040	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.8645**	**0.8645**	**0.6089**	**0.6089**	**0.6089**	**0.6089**	**0.6089**	**0.6089**	**0.3676**	**0.3676**	**0.3676**	**0.3676**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2384	0.2384	0.3974	0.3974	0.3974	0.3974	0.1544	0.1544	0.1544	0.0000	0.0000
Stage 2	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1979	0.1979	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0144	0.0057	0.0057	0.0057	0.0057	0.0006	0.0006	0.0006	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4507**	**0.4420**	**0.4033**	**0.4033**	**0.4033**	**0.3981**	**0.1550**	**0.1550**	**0.1544**	**0.0000**	**0.0000**

PM2.5 QUARTERLY TOTALS BY SOURCE (ALL SITES)

Source	2005				2006				2007				2008				2009			
	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Equipment	0.0000	1.0846	1.4159	2.1423	1.9116	1.8373	2.5510	2.8086	2.3637	2.8348	2.7505	2.9134	2.6007	2.0451	1.9830	1.8651	1.3695	1.3198	0.8483	0.7746
Activity	0.0000	0.8885	1.2538	1.3469	0.7105	0.1784	0.5808	0.7891	0.3152	0.5553	0.7734	0.5756	0.2961	0.2958	0.2958	0.0584	0.0581	0.0003	0.0000	0.0000
VMT-Off site	0.0000	0.0051	0.0062	0.0241	0.0223	0.0175	0.0190	0.0205	0.0366	0.0476	0.0295	0.0295	0.0303	0.0269	0.0206	0.0184	0.0097	0.0088	0.0000	0.0000
Total	0.0000	1.9782	2.6760	3.5133	2.6444	2.0331	3.1508	3.6182	2.7156	3.4376	3.5534	3.5186	2.9271	2.3679	2.2995	1.9419	1.4373	1.3289	0.8483	0.7746

PM2.5 YEARLY TOTALS BY SOURCE (ALL SITES)

Source	YEAR				
	2005	2006	2007	2008	2009
Equipment	4.6429	9.1085	10.8624	8.4939	4.3122
Activity	3.4892	2.2588	2.2195	0.9461	0.0584
VMT-Off site	0.0354	0.0792	0.1433	0.0962	0.0185
Total	8.1675	11.4465	13.2253	9.5363	4.3891

Table V-18
NOx EMISSIONS FROM CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.9574	6.9574	6.7960	6.7960	6.7960	6.7960	6.7960	2.9863	2.9863	1.4651	1.4651
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0059	0.0059	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0126	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.9699**	**6.9633**	**6.8019**	**6.7960**	**6.7960**	**6.7960**	**6.7960**	**2.9863**	**2.9863**	**1.4651**	**1.4651**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	11.0732	11.0732	11.0732	9.1361	9.1361	9.1361	9.1361	9.1361	8.2610	4.9333	4.9333	4.9333	4.9333
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0079	0.0079	0.0079	0.0126	0.0126	0.0126	0.0126	0.0126	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0341	0.0341	0.0341	0.0595	0.0595	0.0595	0.0595	0.0595	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**11.1151**	**11.1151**	**11.1151**	**9.2081**	**9.2081**	**9.2081**	**9.2081**	**9.2081**	**8.2610**	**4.9333**	**4.9333**	**4.9333**	**4.9333**
Launch Site A	Equipment	0.0000	9.8123	9.8123	9.1361	9.1361	9.1361	9.1361	9.1361	4.6397	4.6397	4.7723	4.7723	4.7723	4.7723	4.7723	4.7723	4.7723	4.7723	4.7723	4.7723
	Activity	0.0000	0.0102	0.0102	0.0073	0.0073	0.0073	0.0073	0.0073	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0445	0.0445	0.0388	0.0388	0.0388	0.0388	0.0388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**9.8670**	**9.8670**	**9.1821**	**9.1821**	**9.1821**	**9.1821**	**9.1821**	**4.6397**	**4.6397**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**	**4.7723**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.4175	6.7298	6.7298	6.7298	3.7646	3.7646	3.7646	3.7646	3.7646	2.8896	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**12.4225**	**6.7298**	**6.7298**	**6.7298**	**3.7646**	**3.7646**	**3.7646**	**3.7646**	**3.7646**	**2.8896**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	5.2959	16.6389	5.2959	5.2959	11.8069	11.8069	11.8069	11.8069	11.8069	11.8069	5.2959	5.2959	5.2959	5.2959	5.2959	5.2959	5.2959	5.2959
	Activity	0.0000	0.0000	0.0000	0.0129	0.0000	0.0000	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0153	0.0000	0.0000	0.0077	0.0077	0.0077	0.0077	0.0077	0.0077	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**5.2959**	**16.6671**	**5.2959**	**5.2959**	**11.8201**	**11.8201**	**11.8201**	**11.8201**	**11.8201**	**11.8201**	**5.2959**	**5.2959**	**5.2959**	**5.2959**	**5.2959**	**5.2959**	**5.2959**	**5.2959**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.4791	6.4791	4.7928	4.7928	4.7928
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0071	0.0071	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4876**	**6.4876**	**4.7928**	**4.7928**	**4.7928**
Block 675	Equipment	0.0000	0.0000	7.8043	7.8043	8.9564	8.9564	6.2291	6.2291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0222	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0277	0.0277	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**7.8543**	**7.8543**	**8.9564**	**8.9564**	**6.2291**	**6.2291**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.1747	8.1747	5.4179	5.4179	7.1699	7.1699	7.1699	7.1699	7.1699	7.1699	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0089	0.0089	0.0013	0.0013	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0275	0.0275	0.0730	0.0730	0.2062	0.2062	0.2062	0.2062	0.2062	0.2062	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.2112**	**8.2112**	**5.4922**	**5.4922**	**7.3805**	**7.3805**	**7.3805**	**7.3805**	**7.3805**	**7.3805**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-18
NOx EMISSIONS FROM CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	6.7452	6.7452	12.4977	12.4977	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482	10.0482
	Activity	0.0000	0.0031	0.0031	0.0459	0.0459	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0073	0.0073	0.1139	0.1139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**6.7556**	**6.7556**	**12.6575**	**12.6575**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**	**10.0482**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.7574	6.7574	5.2179	5.2179	5.5918	5.5918	2.3255	2.3255	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0013	0.0013	0.0053	0.0053	0.0005	0.0005	0.0004	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0019	0.0019	0.3649	0.3649	0.0008	0.0008	0.0268	0.0268	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.7606**	**6.7606**	**5.5881**	**5.5881**	**5.5932**	**5.5932**	**2.3526**	**2.3526**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	11.0207	11.0207	15.9004	15.9004	15.9004	15.9004	15.9004	15.9004	15.9004	15.9004	15.9004	15.9004	9.8743	9.8743	9.8743	9.8743	9.8743	0.0000	0.0000
	Activity	0.0000	0.0140	0.0140	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0044	0.0044	0.0044	0.0044	0.0044	0.0000	0.0000
	VMT-Off site	0.0000	0.0343	0.0343	0.1942	0.1942	0.1942	0.1942	0.1942	0.1942	0.1942	0.1942	0.1942	0.1942	0.2085	0.2085	0.2085	0.2085	0.2085	0.0000	0.0000
	Total	**0.0000**	**11.0690**	**11.0690**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**16.1015**	**10.0871**	**10.0871**	**10.0871**	**10.0871**	**10.0871**	**0.0000**	**0.0000**
Conv. Center Stage 1	Equipment	0.0000	19.3931	19.3931	24.5533	24.5533	24.5533	24.5533	24.5533	24.5533	14.2197	14.2197	14.2197	14.2197	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0254	0.0254	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0019	0.0019	0.0019	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0334	0.0334	0.1795	0.1795	0.1795	0.1795	0.1795	0.1795	0.0954	0.0954	0.0954	0.0954	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**19.4519**	**19.4519**	**24.7376**	**24.7376**	**24.7376**	**24.7376**	**24.7376**	**24.7376**	**14.3169**	**14.3169**	**14.3169**	**14.3169**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center Stage 2	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10.1928	10.1928	17.0145	17.0145	17.0145	17.0145	6.4636	6.4636	6.4636	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0127	0.0127	0.0034	0.0034	0.0034	0.0034	0.0003	0.0003	0.0003	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3393	0.3393	0.1346	0.1346	0.1346	0.1346	0.0131	0.0131	0.0131	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**10.5448**	**10.5448**	**17.1526**	**17.1526**	**17.1526**	**17.1526**	**6.4770**	**6.4770**	**6.4770**	**0.0000**	**0.0000**

NOx QUARTERLY TOTALS BY SOURCE (ALL SITES)

	2005				2006				2007				2008				2009			
Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Equipment	0.0000	46.9713	60.0715	86.5307	76.3398	73.8903	92.6061	103.6793	88.6575	107.8915	102.5251	109.1855	99.4082	76.1973	73.8718	68.9250	54.6177	52.9314	34.1972	31.3076
Activity	0.0000	0.0527	0.0750	0.1001	0.0649	0.0191	0.0347	0.0426	0.0317	0.0425	0.0505	0.0412	0.0297	0.0252	0.0248	0.0104	0.0060	0.0046	0.0000	0.0000
VMT-Off site	0.0000	0.1196	0.1473	0.5693	0.5263	0.4124	0.4495	0.4836	0.8533	1.1249	0.9030	0.6983	0.7165	0.6355	0.6087	0.4349	0.2288	0.2216	0.0000	0.0000
Total	0.0000	47.1436	60.2937	87.2001	76.9310	74.3217	93.0903	104.2054	89.5424	109.0589	103.4786	109.9251	100.1544	76.8580	74.5054	69.3704	54.8524	53.1576	34.1972	31.3076

NOx YEARLY TOTALS BY SOURCE (ALL SITES)

	YEAR				
Source	2005	2006	2007	2008	2009
Equipment	193.5735	346.5154	408.2596	318.4024	173.0539
Activity	0.2277	0.1613	0.1659	0.0902	0.0106
VMT-Off site	0.8362	1.8718	3.5794	2.3956	0.4504
Total	194.6374	348.5485	412.0049	320.8882	173.5149

Table V-19
CO EMISSIONS FROM CONSTRUCTION ACTIVITIES 2005-2009
(Assuming use of ULSD for Public Sites and HSD for Private Sites)

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Center Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3238	1.3238	1.3124	1.3124	1.3124	1.3124	1.3124	0.5530	0.5530	0.2716	0.2716
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0050**	**1.3288**	**1.3286**	**1.3172**	**1.3124**	**1.3124**	**1.3124**	**1.3124**	**0.5530**	**0.5530**	**0.2716**	**0.2716**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0790	2.0790	2.0790	1.7724	1.7724	1.7724	1.7724	1.7724	1.5998	0.9699	0.9699	0.9699	0.9699
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0063	0.0063	0.0063	0.0100	0.0100	0.0100	0.0100	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0137	0.0137	0.0137	0.0238	0.0238	0.0238	0.0238	0.0238	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0989**	**2.0989**	**2.0989**	**1.8063**	**1.8063**	**1.8063**	**1.8063**	**1.8063**	**1.5998**	**0.9699**	**0.9699**	**0.9699**	**0.9699**
Launch Site A	Equipment	0.0000	1.8528	1.8528	1.7724	1.7724	1.7724	1.7724	1.7724	0.8735	0.8735	0.8864	0.8864	0.8864	0.8864	0.8864	0.8864	0.8864	0.8864	0.8864	0.8864
	Activity	0.0000	0.0036	0.0036	0.0058	0.0058	0.0058	0.0058	0.0058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0178	0.0178	0.0156	0.0156	0.0156	0.0156	0.0156	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**1.8743**	**1.8743**	**1.7938**	**1.7938**	**1.7938**	**1.7938**	**1.7938**	**0.8735**	**0.8735**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**	**0.8864**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.3469	1.2977	1.2977	1.2977	0.5714	0.5714	0.5714	0.5714	0.5714	0.5283	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.3493**	**1.2977**	**1.2977**	**1.2977**	**0.5714**	**0.5714**	**0.5714**	**0.5714**	**0.5714**	**0.5283**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	1.0030	3.1425	1.0030	1.0030	2.2576	2.2576	2.2576	2.2576	2.2576	2.2576	1.0030	1.0030	1.0030	1.0030	1.0030	1.0030	1.0030	1.0030
	Activity	0.0000	0.0000	0.0000	0.0100	0.0000	0.0000	0.0043	0.0043	0.0043	0.0043	0.0043	0.0043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0061	0.0000	0.0000	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**1.0030**	**3.1586**	**1.0030**	**1.0030**	**2.2649**	**2.2649**	**2.2649**	**2.2649**	**2.2649**	**2.2649**	**1.0030**	**1.0030**	**1.0030**	**1.0030**	**1.0030**	**1.0030**	**1.0030**	**1.0030**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2294	1.2294	0.9441	0.9441	0.9441
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0011	0.0011	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0029	0.0029	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.2334**	**1.2334**	**0.9441**	**0.9441**	**0.9441**
Block 675	Equipment	0.0000	0.0000	1.4578	1.4578	1.6894	1.6894	1.2028	1.2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0169	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0111	0.0111	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**1.4858**	**1.4858**	**1.6894**	**1.6894**	**1.2028**	**1.2028**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5378	1.5378	1.0492	1.0492	1.3775	1.3775	1.3775	1.3775	1.3775	1.3775	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0069	0.0069	0.0010	0.0010	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0110	0.0110	0.0293	0.0293	0.0827	0.0827	0.0827	0.0827	0.0827	0.0827	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.5558**	**1.5558**	**1.0795**	**1.0795**	**1.4636**	**1.4636**	**1.4636**	**1.4636**	**1.4636**	**1.4636**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

that covers the entire site (i.e. a uniform distribution of emissions through the construction area was assumed). These fugitive dust emissions were also added to construction equipment emissions, following the same distribution pattern. An initial dispersion of 15 meters (approximately 45 feet) from the lot line was assumed for these sources to provide a reasonably conservative assumption regarding the location and level of activity at each site. Since some of the sites, such as the Eastern Caemmerer Yards and MUF are depressed (below street level), each source was modeled according to their relative elevation with respect to the lowest site. As an example, Eastern Yards is 20 feet below grade and the lowest point, as such all other sources are modeled above this site.

The concentrations of each pollutant at each receptor location were estimated by modeling all of the sources of all adjacent sites of each pollutant in one modeling run for each year of meteorological data. The results of this analysis provide the cumulative effects of all emission sources combined at each receptor location.

Tables V-20 to V-23 provide the quarterly emission estimates within each one of the 13 sites on a quarterly basis (on-site emissions only for CO and NOx).

The emission sources used as input for the ISC model were based on the peak quarterly emissions for the short term standards, and annual emissions (sum of four quarters) for comparison to the annual standards. The periods selected were: Third quarter of 2005 for PM_{10}, and four quarter of 2006 for $PM_{2.5}$, NOx and CO. The quarterly emissions were divided by 75 working days per quarter to estimate working day emission factors in grams/seconds; the annual emissions (for 2005 or 2006) were divided by 365 days to estimate annual average daily emission factors in grams/second. All emission factors were divided by the site surface area to estimate grams/second/m^2 per site. Tables V-24 to V-29 provide the emission factors for each one of the five sites for all pollutants and time periods.

Based on the short distance between sources and receptor locations, a conversion factor of 38% was used to predict NO_2 increments from NOx predicted levels with the ISCST3 model.

The concentrations of each pollutant at each receptor location were estimated by modeling all of the sources of all adjacent sites of each pollutant in one modeling run for each year of meteorological data. The results of this analysis provide the incremental effects of all emission sources combined at each receptor location.

RECEPTOR SITES

Two sets of receptor locations were considered:

- Sidewalks open to pedestrian traffic during the 2005-2006 period;
- Windows at the residential buildings surrounding the construction sites (at elevated heights representing a string of vertical receptors from the 2nd story up); included in this category was the area along the Hudson River Park on the west side of Twelfth Avenue.
- It was also considered that each site will be fenced by a 10 feet solid wall, and that partially closed sidewalks will be covered on the construction and ceiling side.

The UTM coordinate system was used to establish coordinates of sources and receptors to input into the model.

Figure V-4 provides the location of sources and receptors included in the ISCST3 model.

V-20
Total Estimated Quarterly PM10 Emissions from On-Site Construction Activities

Type of Operations	Construction Activity Time Period		Conv. Center Hotel	Transit Sites				Development Sites								Total Quarterly Emissions
				Terminal Station 34 Str.	Launch Site A	Fan Plant Site N	Retrieval Site L	Midblock Park & Blvd		DS 33	Eastern Cam.Yards	DS 14	MUF Site	Conv. Center, Stage 1	Conv. Center, Stage 2	
			Block 1089	Block 705/706	Block 697	Block 763	Block 1051	Block 705	Block 675	Block 729	Blocks 702&704	Block 1069	Blocks 676&679	Block 685	Block 680	
	Year	Quarter	(41&42 Str &11 Ave)	(34th Str & 11th Ave)	(26th Str & 11 Ave)	40th Str & 8th Ave)	(41st&42 Str & 10th Ave)	(b/w 33 & 34th Str)	(29&30 Str &11/12th Ave)	(31st Str & 9th Ave)	(30/33 St &10/11th Ave)	(40/41 Str & 10th Ave)	(30/34 Str&11/12th Ave)	(36/39 Str& 11th Ave)	(34/35 Str&11th Ave)	tons/quarter
Construction Activities	2005	1/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		2/05	0.00	0.00	1.85	0.00	0.00	0.00	0.00	0.00	0.97	0.00	1.64	3.41	0.00	**7.87**
		3/05	0.00	0.00	1.85	0.00	0.16	0.00	2.42	0.00	0.97	0.00	1.64	3.41	0.00	**10.45**
		4/05	0.00	0.00	1.10	0.00	2.34	0.00	2.42	0.00	3.15	0.00	0.46	0.68	0.00	**10.15**
Construction Activities	**2006**	1/06	0.00	0.00	1.10	0.00	0.16	0.00	0.24	0.00	3.15	0.00	0.46	0.68	0.00	**5.80**
		2/06	0.00	0.00	1.10	0.00	0.16	0.00	0.24	0.00	0.27	0.00	0.46	0.68	0.00	**2.91**
		3/06	0.00	0.00	1.10	0.00	0.83	0.00	0.20	1.40	0.27	1.41	0.46	0.68	0.00	**6.35**
		4/06	0.00	1.50	1.10	0.00	0.83	0.00	0.20	1.40	0.27	1.41	0.46	0.68	0.00	**7.85**
Construction Activities	2007	1/07	0.00	1.50	0.14	0.00	0.83	0.00	0.00	0.26	0.27	0.28	0.46	0.68	0.00	**4.42**
		2/07	0.18	1.50	0.14	1.81	0.83	0.00	0.00	0.26	0.27	0.28	0.46	0.41	1.51	**7.65**
		3/07	1.39	1.70	0.14	0.17	0.83	0.00	0.00	0.37	0.27	0.25	0.46	0.41	1.49	**7.46**
		4/07	1.39	1.70	0.14	0.17	0.83	0.00	0.00	0.37	0.27	0.25	0.46	0.41	0.45	**6.43**
Construction Activities	2008	1/08	0.19	1.70	0.14	0.17	0.16	0.00	0.00	0.37	0.27	0.07	0.46	0.41	0.45	**4.38**
		2/08	0.19	1.70	0.14	0.11	0.16	0.00	0.00	0.37	0.27	0.07	0.30	0.00	0.45	**3.76**
		3/08	0.19	1.70	0.14	0.11	0.16	0.00	0.00	0.37	0.27	0.00	0.30	0.00	0.44	**3.67**
		4/08	0.19	0.22	0.14	0.11	0.16	0.76	0.00	0.37	0.27	0.00	0.30	0.00	0.17	**2.69**
Construction Activities	2009	1/09	0.09	0.12	0.14	0.11	0.16	0.76	0.00	0.00	0.27	0.00	0.30	0.00	0.17	**2.12**
		2/09	0.09	0.12	0.14	0.11	0.16	0.11	0.00	0.00	0.27	0.00	0.30	0.00	0.17	**1.47**
		3/09	0.04	0.12	0.14	0.08	0.16	0.11	0.00	0.00	0.27	0.00	0.00	0.00	0.00	**0.92**
		4/09	0.04	0.12	0.14	0.00	0.16	0.11	0.00	0.00	0.27	0.00	0.00	0.00	0.00	**0.84**

Annual Emissions	Year	Construction Sites													Totals
Tons/year	2005	0.00	0.00	4.81	0.00	2.50	0.00	4.84	0.00	5.10	0.00	3.73	7.50	0.00	28.48
	2006	0.00	1.50	4.41	0.00	1.99	0.00	0.88	2.79	3.96	2.82	1.83	2.72	0.00	22.90
	2007	2.97	6.39	0.56	2.14	3.33	0.00	0.00	1.25	1.07	1.06	1.83	1.91	3.45	25.96
	2008	0.75	5.31	0.56	0.50	0.65	0.76	0.00	1.46	1.07	0.14	1.36	0.41	1.51	14.49
	2009	0.26	0.46	0.56	0.30	0.65	1.10	0.00	0.00	1.07	0.00	0.60	0.00	0.34	5.35

Table V-21
PM2.5 Emissions from Construction Activities

Type of Operations	Construction Activity Time Period		Conv. Center Hotel	Transit Sites				Development Sites								Total Quarterly Emissions
				Terminal Station 34 Str.	Launch Site A	Fan Plant Site N	Retrieval Site L	Midblock Park & Blvd		DS 33	Eastern Cam.Yards	DS 14	MUF Site	Conv. Center, Stage 1	Conv. Center, Stage 2	
			Block 1089	Block 705/706	Block 697	Block 763	Block 1051	Block 705	Block 675	Block 729	Blocks 702&704	Block 1069	Blocks 676&679	Block 685	Block 680	
	Year	Quarter	(41&42 Str &11 Ave)	(34th Str & 11th Ave)	(26th Str & 11 Ave)	40th Str & 8th Ave)	(41st&42 Str & 10th Ave)	(b/w 33 & 34th Str)	(29&30 Str &11/12th Ave)	(31st Str & 9th Ave)	(30/33 St &10/11th Ave)	(40/41 Str & 10th Ave)	(30/34 Str&11/12th Ave)	(36/39 Str& 11th Ave)	(34/35 Str&11th Ave)	tons/quarter
Construction Activities	2005	1/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		2/05	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.45	0.86	0.00	**1.98**
		3/05	0.00	0.00	0.42	0.00	0.15	0.00	0.55	0.00	0.24	0.00	0.45	0.86	0.00	**2.68**
		4/05	0.00	0.00	0.41	0.00	0.69	0.00	0.55	0.00	0.86	0.00	0.40	0.61	0.00	**3.51**
Construction Activities	**2006**	1/06	0.00	0.00	0.41	0.00	0.15	0.00	0.22	0.00	0.86	0.00	0.40	0.61	0.00	**2.64**
		2/06	0.00	0.00	0.41	0.00	0.15	0.00	0.22	0.00	0.25	0.00	0.40	0.61	0.00	**2.03**
		3/06	0.00	0.00	0.41	0.00	0.40	0.00	0.19	0.49	0.25	0.41	0.40	0.61	0.00	**3.15**
		4/06	0.00	0.47	0.41	0.00	0.40	0.00	0.19	0.49	0.25	0.41	0.40	0.61	0.00	**3.62**
Construction Activities	2007	1/07	0.00	0.47	0.13	0.00	0.40	0.00	0.00	0.23	0.25	0.23	0.40	0.61	0.00	**2.72**
		2/07	0.17	0.47	0.13	0.34	0.40	0.00	0.00	0.23	0.25	0.23	0.40	0.37	0.45	**3.44**
		3/07	0.34	0.53	0.13	0.15	0.40	0.00	0.00	0.32	0.25	0.23	0.40	0.37	0.44	**3.55**
		4/07	0.35	0.53	0.13	0.15	0.40	0.00	0.00	0.32	0.25	0.23	0.40	0.37	0.40	**3.52**
Construction Activities	2008	1/08	0.17	0.53	0.13	0.15	0.15	0.00	0.00	0.32	0.25	0.06	0.40	0.37	0.40	**2.93**
		2/08	0.17	0.53	0.13	0.10	0.15	0.00	0.00	0.32	0.25	0.06	0.26	0.00	0.40	**2.37**
		3/08	0.17	0.53	0.13	0.10	0.15	0.00	0.00	0.32	0.25	0.00	0.26	0.00	0.40	**2.30**
		4/08	0.17	0.20	0.13	0.10	0.15	0.21	0.00	0.32	0.25	0.00	0.26	0.00	0.15	**1.94**
Construction Activities	2009	1/09	0.08	0.11	0.13	0.10	0.15	0.21	0.00	0.00	0.25	0.00	0.26	0.00	0.15	**1.44**
		2/09	0.08	0.11	0.13	0.10	0.15	0.10	0.00	0.00	0.25	0.00	0.26	0.00	0.15	**1.33**
		3/09	0.04	0.11	0.13	0.07	0.15	0.10	0.00	0.00	0.25	0.00	0.00	0.00	0.00	**0.85**
		4/09	0.04	0.11	0.13	0.00	0.15	0.10	0.00	0.00	0.25	0.00	0.00	0.00	0.00	**0.77**

Annual Emissions	Year	Construction Sites													Totals
Tons/year	2005	0.00	0.00	1.26	0.00	0.84	0.00	1.09	0.00	1.34	0.00	1.29	2.34	0.00	8.17
	2006	0.00	0.47	1.64	0.00	1.11	0.00	0.81	0.98	1.60	0.82	1.59	2.44	0.00	11.45
	2007	0.86	1.99	0.52	0.65	1.61	0.00	0.00	1.10	0.99	0.92	1.59	1.71	1.30	13.23
	2008	0.69	1.78	0.51	0.46	0.60	0.21	0.00	1.27	0.99	0.13	1.17	0.37	1.36	9.54
	2009	0.24	0.43	0.51	0.28	0.60	0.52	0.00	0.00	0.99	0.00	0.52	0.00	0.31	4.39

Table V-22
Total Estimated Quarterly NOx Emissions from Construction Activities

Type of Operations	Construction Activity Time Period		Conv. Center Hotel	Transit Sites				Development Sites								Total Quarterly Emissions
				Terminal Station 34 Str.	Launch Site A	Fan Plant Site N	Retrieval Site L	Midblock Park & Blvd		DS 33	Eastern Cam.Yards	DS 14	MUF Site	Conv. Center, Stage 1	Conv. Center, Stage 2	
			Block 1089	Block 705/706	Block 697	Block 763	Block 1051	Block 705	Block 675	Block 729	Blocks 702&704	Block 1069	Blocks 676&679	Block 685	Block 680	
	Year	Quarter	(41&42 Str &11 Ave)	(34th Str & 11th Ave)	(26th Str & 11 Ave)	40th Str & 8th Ave)	(41st&42 Str & 10th Ave)	(b/w 33 & 34th Str)	(29&30 Str &11/12th Ave)	(31st Str & 9th Ave)	(30/33 St &10/11th Ave)	(40/41 Str & 10th Ave)	(30/34 Str&11/12th Ave)	(36/39 Str& 11th Ave)	(34/35 Str&11th Ave)	tons/quarter
Construction Activities	2005	1/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
		2/05	0.00	0.00	9.82	0.00	0.00	0.00	0.00	0.00	6.75	0.00	11.03	19.42	0.00	**47.02**
		3/05	0.00	0.00	9.82	0.00	5.30	0.00	7.83	0.00	6.75	0.00	11.03	19.42	0.00	**60.15**
		4/05	0.00	0.00	9.14	0.00	16.65	0.00	7.83	0.00	12.54	0.00	15.91	24.56	0.00	**86.63**
Construction Activities	2006	1/06	0.00	0.00	9.14	0.00	5.30	0.00	8.96	0.00	12.54	0.00	15.91	24.56	0.00	**76.40**
		2/06	0.00	0.00	9.14	0.00	5.30	0.00	8.96	0.00	10.05	0.00	15.91	24.56	0.00	**73.91**
		3/06	0.00	0.00	9.14	0.00	11.81	0.00	6.23	8.18	10.05	6.76	15.91	24.56	0.00	**92.64**
		4/06	0.00	11.08	9.14	0.00	11.81	0.00	6.23	8.18	10.05	6.76	15.91	24.56	0.00	**103.72**
Construction Activities	2007	1/07	0.00	11.08	4.64	0.00	11.81	0.00	0.00	5.42	10.05	5.22	15.91	24.56	0.00	**88.69**
		2/07	6.96	11.08	4.64	12.42	11.81	0.00	0.00	5.42	10.05	5.22	15.91	14.22	10.21	**107.93**
		3/07	6.96	9.15	4.77	6.73	11.81	0.00	0.00	7.17	10.05	5.59	15.91	14.22	10.21	**102.58**
		4/07	6.80	9.15	4.77	6.73	11.81	0.00	0.00	7.17	10.05	5.59	15.91	14.22	17.02	**109.23**
Construction Activities	2008	1/08	6.80	9.15	4.77	6.73	5.30	0.00	0.00	7.17	10.05	2.33	15.91	14.22	17.02	**99.44**
		2/08	6.80	9.15	4.77	3.76	5.30	0.00	0.00	7.17	10.05	2.33	9.88	0.00	17.02	**76.22**
		3/08	6.80	9.15	4.77	3.76	5.30	0.00	0.00	7.17	10.05	0.00	9.88	0.00	17.02	**73.90**
		4/08	6.80	8.26	4.77	3.76	5.30	6.48	0.00	7.17	10.05	0.00	9.88	0.00	6.46	**68.94**
Construction Activities	2009	1/09	2.99	4.93	4.77	3.76	5.30	6.48	0.00	0.00	10.05	0.00	9.88	0.00	6.46	**54.62**
		2/09	2.99	4.93	4.77	3.76	5.30	4.79	0.00	0.00	10.05	0.00	9.88	0.00	6.46	**52.94**
		3/09	1.47	4.93	4.77	2.89	5.30	4.79	0.00	0.00	10.05	0.00	0.00	0.00	0.00	**34.20**
		4/09	1.47	4.93	4.77	0.00	5.30	4.79	0.00	0.00	10.05	0.00	0.00	0.00	0.00	**31.31**

Annual Emissions	Year	Construction Sites													Totals
Tons/year	2005	0.00	0.00	28.79	0.00	21.95	0.00	15.65	0.00	26.04	0.00	37.98	63.40	0.00	**193.80**
	2006	0.00	11.08	36.57	0.00	34.22	0.00	30.37	16.37	42.69	13.52	63.63	98.23	0.00	**346.68**
	2007	20.72	40.46	18.82	25.88	47.25	0.00	0.00	25.19	40.19	21.63	63.63	67.22	37.43	**408.43**
	2008	27.18	35.71	19.09	18.02	21.18	6.48	0.00	28.70	40.19	4.65	45.54	14.22	57.52	**318.49**
	2009	8.90	19.73	19.09	10.42	21.18	20.86	0.00	0.00	40.19	0.00	19.76	0.00	12.93	**173.06**

Table V-23
CO Emission from Construction Activities

Type of Operations	Construction Activity Time Period		Conv. Center Hotel	Transit Sites				Development Sites								Total Quarterly Emissions
				Terminal Station 34 Str.	Launch Site A	Fan Plant Site N	Retrieval Site L	Midblock Park & Blvd		DS 33	Eastern Cam.Yards	DS 14	MUF Site	Conv. Center, Stage 1	Conv. Center, Stage 2	
			Block 1089	Block 705/706	Block 697	Block 763	Block 1051	Block 705	Block 675	Block 729	Blocks 702&704	Block 1069	Blocks 676&679	Block 685	Block 680	
	Year	Quarter	(41&42 Str &11 Ave)	(34th Str & 11th Ave)	(26th Str & 11 Ave)	40th Str & 8th Ave)	(41st&42 Str & 10th Ave)	(b/w 33 & 34th Str)	(29&30 Str &11/12th Ave)	(31st Str & 9th Ave)	(30/33 St &10/11th Ave)	(40/41 Str & 10th Ave)	(30/34 Str&11/12th Ave)	(36/39 Str& 11th Ave)	(34/35 Str&11th Ave)	tons/quarter
Construction Activities	2005	1/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		2/05	0.00	0.00	1.86	0.00	0.00	0.00	0.00	0.00	1.28	0.00	2.05	3.73	0.00	**8.91**
		3/05	0.00	0.00	1.86	0.00	1.00	0.00	1.47	0.00	1.28	0.00	2.05	3.73	0.00	**11.39**
		4/05	0.00	0.00	1.78	0.00	3.15	0.00	1.47	0.00	2.36	0.00	2.95	4.58	4.58	**20.88**
Construction Activities	**2006**	1/06	0.00	0.00	1.78	0.00	1.00	0.00	1.69	0.00	2.36	0.00	2.95	4.58	0.00	**14.36**
		2/06	0.00	0.00	1.78	0.00	1.00	0.00	1.69	0.00	1.82	0.00	2.95	4.58	0.00	**13.82**
		3/06	0.00	0.00	1.78	0.00	2.26	0.00	1.20	1.54	1.82	1.28	2.95	4.58	0.00	**17.41**
		4/06	0.00	2.09	1.78	0.00	2.26	0.00	1.20	1.54	1.82	1.28	2.95	4.58	0.00	**19.50**
Construction Activities	2007	1/07	0.00	2.09	0.87	0.00	2.26	0.00	0.00	1.05	1.82	1.01	2.95	4.58	0.00	**16.62**
		2/07	1.32	2.09	0.87	2.35	2.26	0.00	0.00	1.05	1.82	1.01	2.95	2.60	1.97	**20.28**
		3/07	1.33	1.78	0.89	1.30	2.26	0.00	0.00	1.38	1.82	1.07	2.95	2.60	1.97	**19.34**
		4/07	1.32	1.78	0.89	1.30	2.26	0.00	0.00	1.38	1.82	1.07	2.95	2.60	3.25	**20.61**
Construction Activities	2008	1/08	1.31	1.78	0.89	1.30	1.00	0.00	0.00	1.38	1.82	0.43	2.95	2.60	3.25	**18.71**
		2/08	1.31	1.78	0.89	0.57	1.00	0.00	0.00	1.38	1.82	0.43	1.80	0.00	3.25	**14.23**
		3/08	1.31	1.78	0.89	0.57	1.00	0.00	0.00	1.38	1.82	0.00	1.80	0.00	3.25	**13.80**
		4/08	1.31	1.60	0.89	0.57	1.00	1.23	0.00	1.38	1.82	0.00	1.80	0.00	1.16	**12.76**
Construction Activities	2009	1/09	0.55	0.97	0.89	0.57	1.00	1.23	0.00	0.00	1.82	0.00	1.80	0.00	1.16	**9.99**
		2/09	0.55	0.97	0.89	0.57	1.00	0.94	0.00	0.00	1.82	0.00	1.80	0.00	1.16	**9.70**
		3/09	0.27	0.97	0.89	0.53	1.00	0.94	0.00	0.00	1.82	0.00	0.00	0.00	0.00	**6.42**
		4/09	0.27	0.97	0.89	0.00	1.00	0.94	0.00	0.00	1.82	0.00	0.00	0.00	0.00	**5.89**

Annual Emissions	Year	Construction Sites													Totals
Tons/year	2005	0.00	0.00	5.49	0.00	4.16	0.00	2.95	0.00	4.93	0.00	7.05	12.03	4.58	41.18
	2006	0.00	2.09	7.11	0.00	6.53	0.00	5.78	3.09	7.81	2.55	11.80	18.32	0.00	65.08
	2007	3.97	7.74	3.52	4.94	9.05	0.00	0.00	4.86	7.26	4.14	11.80	12.39	7.19	76.86
	2008	5.25	6.95	3.55	3.01	4.01	1.23	0.00	5.52	7.26	0.86	8.35	2.60	10.90	59.51
	2009	1.65	3.88	3.55	1.67	4.01	4.06	0.00	0.00	7.26	0.00	3.60	0.00	2.32	32.00

Table V-24
24-hr PM10 Emission Rates from On-Site Construction Activities

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	N of Block 680	N of Block 680
Quarterly Emissions (tons/quarter)	0.000	0.000	2.42	0.97	0.55	0.55	0.55	1.14	1.14	1.14
Estimated Emissions (g/sec)	0.000	0.000	0.339	0.136	0.076	0.076	0.076	0.159	0.159	0.159
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	0.000E+00	0.000E+00	6.076E-05	3.328E-06	1.556E-05	2.452E-06	9.082E-06	2.847E-05	2.392E-05	2.388E-05

Table V-25
Annual PM10 Emission Rates from On-Site Construction Activities

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Annual Emissions (tons/year)	0.00	0.00	4.84	5.10	1.24	1.24	1.24	2.50	2.50	2.50
Estimated Emissions (g/sec)	0.000	0.000	0.139	0.147	0.036	0.036	0.036	0.072	0.072	0.072
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	0.000E+00	0.000E+00	2.497E-05	3.586E-06	7.287E-06	1.149E-06	4.254E-06	1.287E-05	1.081E-05	1.080E-05

Table V-26
24-hr PM2.5 Emission Rates from On-Site Construction Activities

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Quarterly Emissions (tons/quarter)	0.31	0.16	0.19	0.25	0.13	0.13	0.13	0.20	0.20	0.20
Estimated Emissions (g/sec)	0.044	0.022	0.026	0.035	0.019	0.019	0.019	0.028	0.028	0.028
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	1.024E-05	1.024E-05	4.707E-06	8.444E-07	3.791E-06	5.977E-07	2.214E-06	5.085E-06	4.271E-06	4.265E-06

Table V-27
Annual PM2.5 Emission Rates from On-Site Activities

Emission Rates	Terminal Station 34 Street		DSNY Tow Pound	Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1			Total
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680	
Annual Emissions (tons/years)	0.31	0.16	0.81	1.60	0.53	0.53	0.53	0.81	0.81	0.81	6.91
Estimated Emissions (g/sec)	0.009	0.004	0.023	0.046	0.015	0.015	0.015	0.023	0.023	0.023	0.20
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662	116,209
Estimated Emission Rates ($g/sec\text{-}m^2$)	2.104E-06	2.104E-06	4.198E-06	1.124E-06	3.116E-06	4.912E-07	1.819E-06	4.179E-06	3.510E-06	3.505E-06	2.62E-05

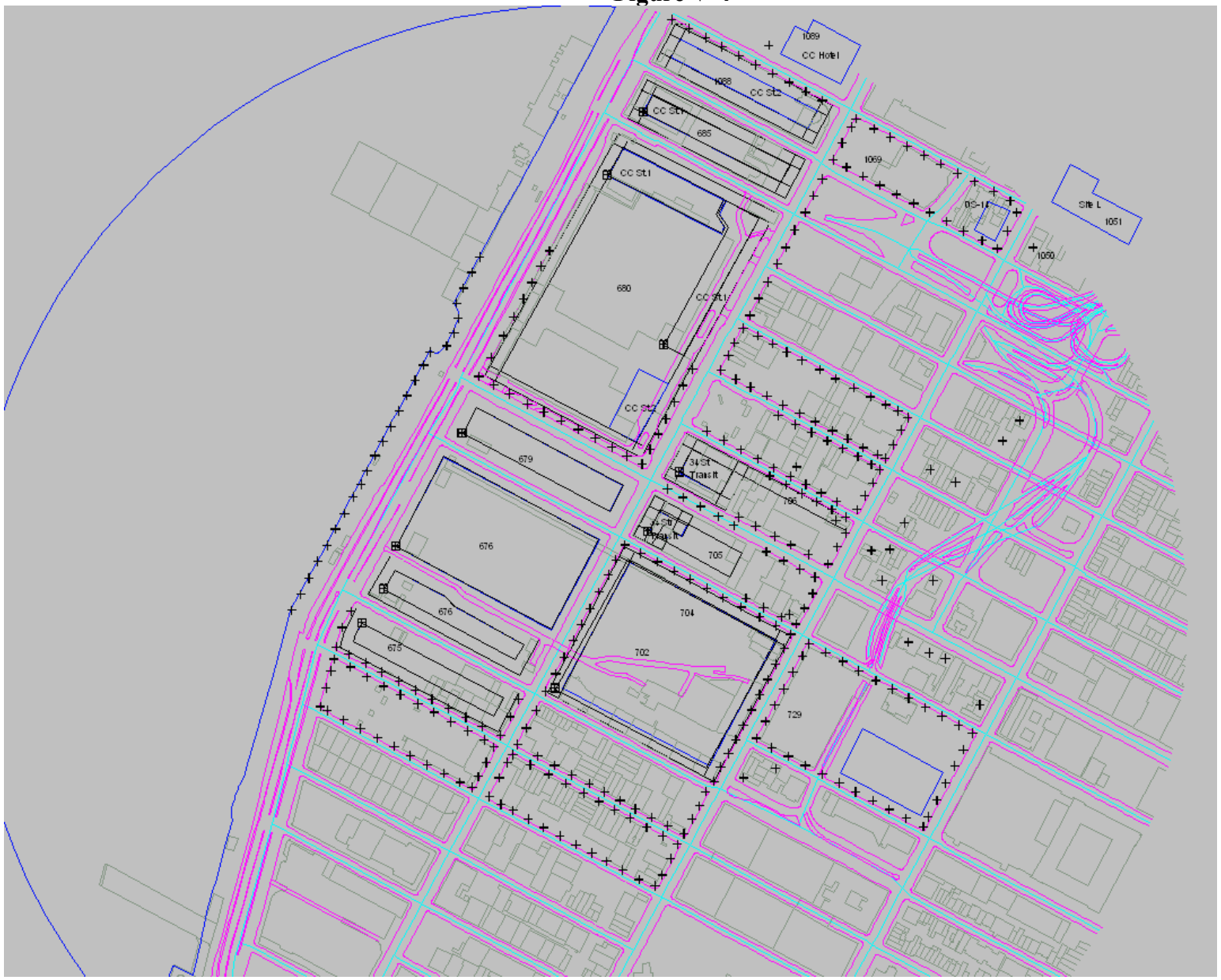
Table V-28
NOx Emission Rates from On-Site Construction Activities

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Quarterly Emissions (tons/years)	7.39	3.69	30.37	42.69	21.21	21.21	21.21	32.74	32.74	32.74
Estimated Emissions (g/sec)	0.213	0.106	0.874	1.228	0.610	0.610	0.610	0.942	0.942	0.942
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	4.988E-05	4.988E-05	1.567E-04	3.003E-05	1.243E-04	1.960E-05	7.258E-05	1.686E-04	1.416E-04	1.414E-04

Table V-29
CO Emission Rates from On-Site Construction Activities

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	N of Block 680	N of Block 680
Quarterly Emissions (tons/quarter)	1.39	0.70	1.20	1.82	0.98	0.98	0.98	1.53	1.53	1.53
Estimated Emissions (g/sec)	0.292	0.146	0.385	0.581	0.315	0.315	0.315	0.489	0.489	0.489
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates (g/sec-m^2)	6.853E-05	6.853E-05	6.906E-05	1.421E-05	6.415E-05	1.011E-05	3.745E-05	8.749E-05	7.348E-05	7.338E-05

Figure V-4



Location of Emission Sources and Receptors Used in the Dispersion Analysis with ISC Model

□ **Emission Source**

+ **Receptor Location**

METEOROLOGICAL DATA

Meteorological data used for this analysis included five years (1998-2002) of LaGuardia Airport surface data and Brookhaven mixing height data.

BACKGROUND VALUES

Background pollutant concentrations for CO, and PM_{10}, were obtained from monitoring data recorded at the closest NY State Department of Environmental Conservation ambient air quality monitor as described in Chapter 21, "Air Quality." The $PM_{2.5}$ baseline values reported in Chapter 23 represent the 2001 to 2003 average of the 24-hour 98th percentile and annual average levels measured at NYSDEC monitoring station at Public School 59 (located at 288 E 57th Street). The NO_2 annual background is based on the last three years of measured data at the Mabel Dean H.S. NYSDEC monitoring station.

$PM_{2.5}$ IMPACT ASSESSMENT

The $PM_{2.5}$ analysis follows the NYCDEP's "Interim Guidelines for $PM_{2.5}$ Analysis," dated September 4, 2003 as follows:

- The highest estimated 24-hour concentrations were estimated using the same approach as for the PM_{10} impacts, but the results were compared to both the NAAQS and NYCDEP's STV of 5 $\mu g/m^3$.
- The annual $PM_{2.5}$ impact was estimated based on a neighborhood average analysis using a 1 km by 1 km (approximately 0.6 mile by 0.6 mile) Cartesian receptor grid, centered on the receptor having the highest estimated annual concentration, with 25-meter (approximately 80 feet) spacing in all directions, excluding all receptors within the site fence line or within 15 meters (approximately 50 feet) of any construction source. The $PM_{2.5}$ concentrations estimated at all receptors within the receptor grid were averaged over the grid and compared to an annual STV of 0.1 $\mu g/m^3$. Both the on-site (construction equipment and fugitive dust emissions) and off-site (trucking activities emissions) source were included in the annual $PM_{2.5}$ analysis.

Figure V-5 provides the receptor locations included in the grid system used for the annual $PM_{2.5}$ analysis

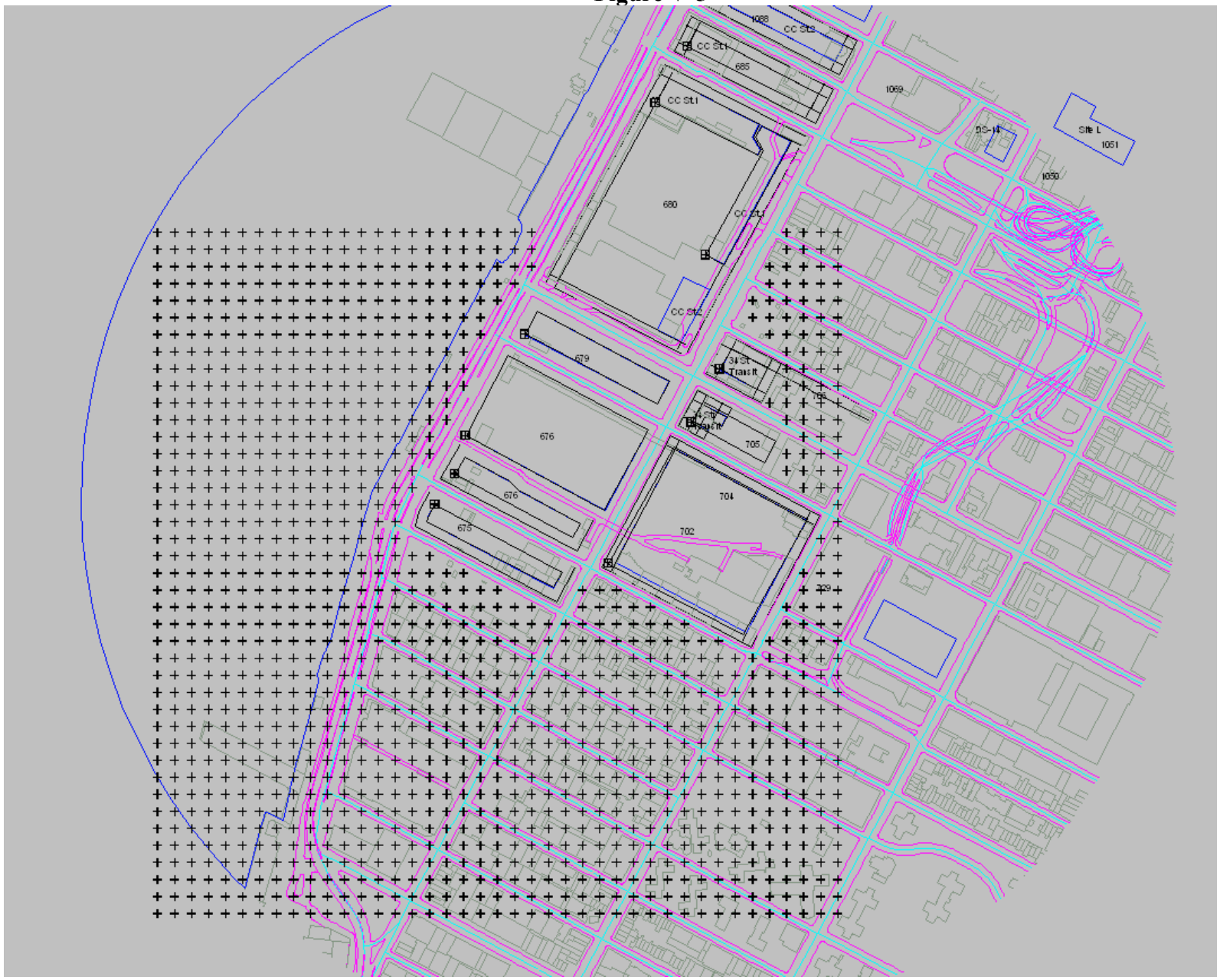
OFF-SITE (MOBILE SOURCE) ANALYSIS

A separate analysis was conducted to estimate potential air quality impacts associated with the operation of construction-phase vehicles (including trucks used for the transportation of spoil, rock, and debris removal, and transport of construction materials and cement) on the roadway network, and changes in street configurations as a result of lane closures during 2006.

The corridor of Eleventh Avenue between 29th and 40th Streets (with center at the intersection of West 34th Street) was selected for analysis based on the proximity to the location of the highest related construction impacts, lane closures, and the total combined approach volumes in the Eleventh Avenue corridor.

The analysis was performed for CO, PM_{10} and $PM_{2.5}$, using the same procedures and assumptions described in Chapter 21, matching the receptor locations evaluated in the on-site construction analysis. CO was analyzed using the same procedures and assumptions described in Chapter 21 except the CAL3QHC program rather than the CAL3QHCR program was used. The analysis was performed for the year 2006 Construction condition and the Future Without the Proposed Action condition in order to obtain the increment due to truck movement and the effect of lane closings.

Figure V-5



Extent of the Grid System Used for the Annual Neighborhood Average PM2.5 Analysis

□ **Emission Source**

\+ **Receptor Location**

In the CO and PM_{10} analysis, the contribution of baseline (no build) traffic emissions at the area of maximum construction impact was added to the background values.

Figure V-6 provides the sources and receptors used in the CAL3QHC model.

RESULTS

The potential air quality impacts for the four pollutants analyzed on the largest construction area are presented in Table V-30. This table includes the cumulative increments from on-site operations (i.e., diesel powered construction equipment and fugitive dust emissions) and off-site operations (i.e., traffic effects due to trucking activity and lane closings). The maximum concentration levels are reported for the highest predicted levels at open sidewalk locations, and the highest predicted levels at residences in the vicinity of the construction areas.

TABLE V-30: HIGHEST PREDICTED POLLUTANT INCREMENTS

Pollutant	Average Period	Receptor Type[1]	On-Site Effect (construction activity)	Off-Site Effect[2] (trucking/lane closings)	Cumulative Increment
PM10 ($\mu g/m^3$)	24-Hour	Sidewalk	89.5	0.1	89.6
		Residential	23.0	0.2	23.2
	Annual	Sidewalk	8.6	0.06	8.7
		Residential	2.0	0.05	2.1
$PM_{2.5}$ ($\mu g/m^3$)	24-Hour	Sidewalk	15.6	0.2	15.8
		Residential	5.0	0.17	5.2
	Annual	Neighborhood	0.29	Included[3]	0.29
NO_2 ($\mu g/m^3$)	Annual	Sidewalk	25.0	NA	25.0
		Residential	8.0	NA	8.0
CO (PPM)	8-Hour	Sidewalk	0.3	0.2	0.5
		Residential	0.2	0.3	0.5

1 The reported increment is for the highest receptor for all combined construction sites evaluated.
2 The increment is the difference between the Future Without the Proposed Action and construction-phase traffic conditions.
3 The 1 km grid used for the annual PM2.5 includes all the on-site construction sources and off-site trucking emissions.
NA = Not Applicable

The largest contribution to these pollutant increments are related to the on-site construction activities. The air quality effects from off-site truck travel are very small when compared to on-site construction activities. Also, the levels estimated at nearby residential buildings are much lower than those estimated at adjacent sidewalks.

Table V-31 provides the total pollutant levels including the project construction increments and the background levels. In the case of CO, and PM_{10} the background includes the contribution of baseline traffic emissions as estimated for the no-build scenario at the area of maximum construction impact.

Figure V-6
Off-Site CAL3QHC
Receptor Locations

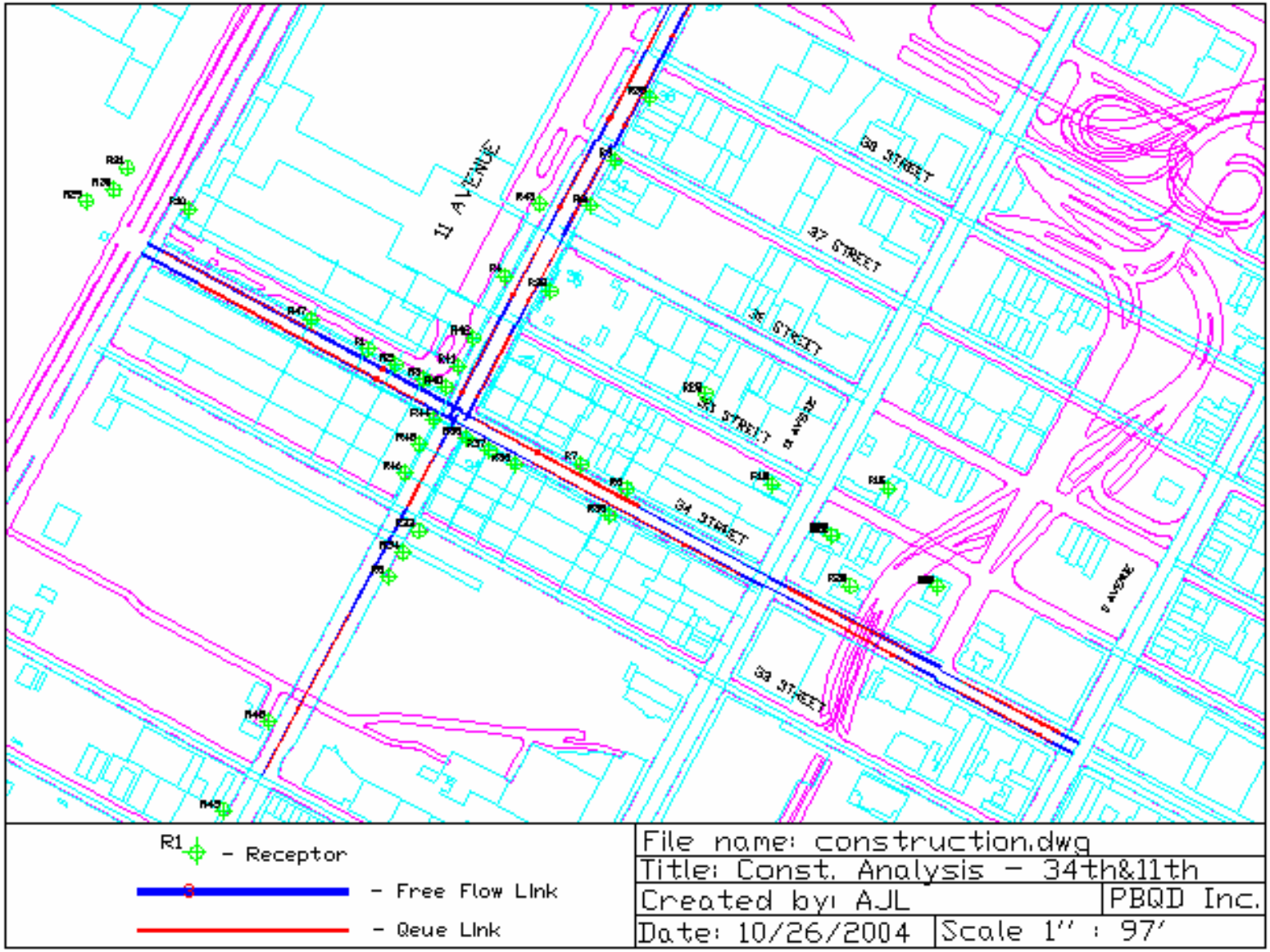


TABLE V-31: HIGHEST PREDICTED POLLUTANT CONCENTRATIONS

Pollutant	Average Period	NAAQS/ (DEP STV)	Receptor Type	Cumulative Increment	Background/ Baseline Level[1]	Total Predicted Concentration
PM10 ($\mu g/m^3$)	24-Hour	150	Sidewalk	89.6	56.4	146.0
			Residential	23.2	56.4	79.8
	Annual	50	Sidewalk	8.7	26.0	34.7
			Residential	2.1	26.0	28.1
$PM_{2.5}$ ($\mu g/m^3$)	24-Hour	65 5 (DEP)	Sidewalk	15.8	40.0	55.8
			Residential	5.2		45.2
	Annual	15 0.1 (DEP)	Neighborhood	0.29	17.5	17.79
NO_2 ($\mu g/m^3$)	Annual	100	Sidewalk	25.0	71.0	96.0
			Residential	8.0		79.0
CO (PPM)	8-Hour	9.0	Sidewalk	0.5	4.9	5.4
			Residential	0.5	4.9	5.4

1 Background level estimation for PM10,, and CO is described in Chapter 21. Baseline includes the Future Without the Proposed Action contribution of baseline traffic emissions for PM10 and CO. NO2 background is based on the most recent monitoring data from the Mabel Dean H.S. NYSDEC monitoring station. PM2.5 baseline is based on the 2001-2003 average of the 24-hour 98th percentile and annual average levels measured by the NYSDEC at the PS 59 monitoring station. Annual PM2.5 monitored levels already exceed the NAAQS.

2 PM2.5 levels are compared to the NYC DEP Significant Threshold Values, as annual baseline monitored levels already exceed the NAAQS.

The highest PM increments at the sidewalk locations are predicted to be 89.6 $\mu g/m^3$ for PM_{10}, and 15.8 $\mu g/m^3$ for $PM_{2.5}$ on a 24-hour basis; and 8.7 $\mu g/m^3$ for PM_{10} on an annual basis. In terms of effects to residences and recreational areas, the highest increments are predicted to be 23.2 $\mu g/m^3$ for PM_{10} and 5.2 $\mu g/m^3$ for $PM_{2.5}$ on a 24-hour basis, and 2.1 $\mu g/m^3$ for PM_{10} on an annual basis, almost one-third of the sidewalk levels. The highest annual NO_2 increments are 25 $\mu g/m^3$ at the sidewalk location, and 8 $\mu g/m^3$ at the residential location. The annual $PM_{2.5}$ increment, based on the DEP neighborhood approach, was estimated at 0.29 $\mu g/m^3$.

As observed in Table V-30, when these predicted increments are added to the background levels for CO, NO_2 and PM_{10}, the results indicate that the total concentrations are not expected to exceed the NAAQS for these pollutants. However, the estimated $PM_{2.5}$ increments are higher than the DEP 24-hour and annual STV 5 $\mu g/m^3$ and 0.1 $\mu g/m^3$. In addition, the annual monitored $PM_{2.5}$ baseline values already exceed the NAAQS.

EMISSION REDUCTION MEASURES

The results of the cumulative effects analysis of construction activities indicate that the operation of approximate 190 diesel-powered construction-phase pieces of equipment during the peak construction year has the potential for significant $PM_{2.5}$ increments. Use of USLD fuel, which is anticipated to reduce PM_{10} and $PM_{2.5}$ diesel emissions by approximately 40 percent when compared to the regular off-road (3,300 ppm-sulfur) diesel.

In order to further reduce these PM (both PM_{10} and $PM_{2.5}$) impacts (and minimize air quality impacts), the project sponsors are committed to the implementation of mitigation measures to reduce emissions from diesel engines and dust-generating activities.

DIESEL EMISSION CONTROLS

All publicly funded construction sites which will be under construction between 2005 and 2009 will require the following emission reduction measures:

- Use of ULSD fuel with 15 PPM sulfur. ULSD allows the use of advance emission control technologies to reduce CO and PM exhaust on diesel engines.
- All engines for construction equipment with engine horsepower (HP) rating above 50 HP should be in compliance with EPA's Tier 2 emission standards. Tier 2 standards are mandatory for all new non-road engines from model year 2003 for the 100 to 300 HP category, and model year 2001 for the 300 to 600 HP category.
- All construction equipment with engines above 50 HP should also be retrofitted with diesel particular filters (DPFs). Today DPFs can reduce CO, hydrocarbons (HC) and PM emissions in the order of 60 to 90 percent. There are several manufacturers certified by the EPA with proven experience of thousands of hours of operation on off-road applications.
- In the cases where some particular type of equipment could not be retrofitted with DPFs, the contractor must provide an equivalent retrofit technology that will reduce CO, HC and PM emissions by over 40%. This range of emission reductions can be achieved by a combination of diesel oxidation catalysts (DOCs), diesel particulate reactors and crankcase filters. There are approximately a dozen products in today's market that are certified by EPA and could achieve this range of emission reductions.
- In addition, compressors, welders, and pumps should be electric powered.

For the purpose of determining the emission reductions resulting from this emission control program, and the effects of this emission control measures on ambient air quality levels, it was assumed that the combination of Tier 2 compliance engines and retrofit technology could achieve PM_{10} and $PM_{2.5}$ emission reductions in the range of 66% from the base construction scenario on all construction equipment.

In the case of CO the anticipated emission reductions from Tier 2 compliance engines and retrofit technology are 44% (40% from retrofit and 4% from Tier 2).

In the case of NOx the anticipated emission reductions from Tier 2 compliance engines are calculated at 7% (retrofit technology has no effect on NOx reductions).

Electrification of compressors further reduced the total emissions from the base construction scenario for each individual site (depending on the number of compressors utilized).

CONSTRUCTION ACTIVITIES EMISSION CONTROLS

A comprehensive dust control program should be incorporated into each construction contract to control excessive nuisance dust both on- and off-site, thereby ensuring that PM levels within the affected areas are maintained at levels as low as can be reasonably achieved.

The following dust control measures are expected to be implemented:

- Wet suppression with or without approved binding agents, used on-site on a routine basis with hoses or a sprinkler system during deconstruction and material handling activities aiming at a 10% moisture content in the ground;
- Wet spray power vacuum street sweeper used on paved roadways;
- Use of calcium chloride instead of wet suppression when freezing conditions exist;
- Use of solid wood 10 foot barriers around the perimeter of each construction site;
- Use of covered sidewalks when the sidewalk is partially used as part of the construction site;
- Use of crushed stone at construction ingress/egress areas;
- Covering dump trucks during material transport on public roadways;
- Limiting unnecessary idling times on diesel-powered engines to three (3) minutes;
- Limiting truck speed within the site at less than 5 mph.

Implementation of these dust control measures can reduce ambient PM increments in the range of 50-85 percent on large scale construction projects. For the purpose of determining the emission reductions resulting from this dust control program, a 70% reduction for PM_{10} and $PM_{2.5}$ base emissions was assumed (it is important to notice that most fugitive dust emissions are related to PM_{10} or larger particles).

These specific control measures (for diesel engines and fugitive dust) will be translated into construction specifications for the Proposed Action as part of the Construction Environmental Protection Plan (CEPP), to ensure that the goals identified during the environmental review process are met during the construction phase.

EMISSION CONTROLS FOR PRIVATE DEVELOPMENT SITES

For the case of the two private development sites (Development sites #33 and #14) the only emission reductions assumed included the use of on-road diesel fuel (400 ppm sulfur) instead of off-road diesel (3,300 ppm sulfur) for construction equipment. This is mandated under the EPA Tier 4 Non-Road Diesel Rule from 2007, and translates into a PM emission reduction of 37%. It is also assumed the application of best management practice for dust control can easily reduce fugitive dust emissions by 50% by watering and controlling track out dirt from the sites.

EMISSION REDUCTION MEASURES ANALYSIS AND RESULTS

An estimation of construction related emissions with the application of the above mentioned emission control measures was performed for all 13 individual sites.

Tables V-32 to V-35 and Figures V-7 to V-9 provide the quarterly emission estimates for all four pollutants at each site. As can be observed in these tables the implementation of the emission control program will reduce the construction phase emissions and during the peak activities in the range of 39 tons/year for CO, 105 tons/year for NOx, 20 tons/year for PM_{10} and 8 tons/year for $PM_{2.5}$.

Tables V-36 to V-41 provided the emission estimates used as input to the ISCST3 model for all four pollutants for the same cluster of five sites evaluated in the base construction scenario.

Table V-32
PM10 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0520	0.0520	0.0382	0.0382	0.0382	0.0382	0.0382	0.0124	0.0124	0.0060	0.0060
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3615	0.3615	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4150**	**0.4135**	**0.0382**	**0.0382**	**0.0382**	**0.0382**	**0.0382**	**0.0124**	**0.0124**	**0.0060**	**0.0060**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0745	0.0745	0.0745	0.0641	0.0641	0.0641	0.0641	0.0641	0.0589	0.0343	0.0343	0.0343	0.0343
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3638	0.3638	0.3638	0.4322	0.4322	0.4322	0.4322	0.4322	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040	0.0040	0.0040	0.0069	0.0069	0.0069	0.0069	0.0069	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.4422**	**0.4422**	**0.4422**	**0.5032**	**0.5032**	**0.5032**	**0.5032**	**0.5032**	**0.0589**	**0.0343**	**0.0343**	**0.0343**	**0.0343**
Launch Site A	Equipment	0.0000	0.0685	0.0685	0.0641	0.0641	0.0641	0.0641	0.0641	0.0401	0.0401	0.0395	0.0395	0.0395	0.0395	0.0395	0.0395	0.0395	0.0395	0.0395	0.0395
	Activity	0.0000	0.4801	0.4801	0.2545	0.2545	0.2545	0.2545	0.2545	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0052	0.0052	0.0045	0.0045	0.0045	0.0045	0.0045	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.5538**	**0.5538**	**0.3231**	**0.3231**	**0.3231**	**0.3231**	**0.3231**	**0.0401**	**0.0401**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**	**0.0395**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0959	0.0537	0.0537	0.0537	0.0298	0.0298	0.0298	0.0298	0.0298	0.0195	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4454	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5417**	**0.0537**	**0.0537**	**0.0537**	**0.0298**	**0.0298**	**0.0298**	**0.0298**	**0.0298**	**0.0195**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	0.0401	0.1241	0.0401	0.0401	0.0835	0.0835	0.0835	0.0835	0.0835	0.0835	0.0401	0.0401	0.0401	0.0401	0.0401	0.0401	0.0401	0.0401
	Activity	0.0000	0.0000	0.0000	0.5637	0.0000	0.0000	0.1530	0.1530	0.1530	0.1530	0.1530	0.1530	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0401**	**0.6896**	**0.0401**	**0.0401**	**0.2374**	**0.2374**	**0.2374**	**0.2374**	**0.2374**	**0.2374**	**0.0401**	**0.0401**	**0.0401**	**0.0401**	**0.0401**	**0.0401**	**0.0401**	**0.0401**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0497	0.0497	0.0382	0.0382	0.0382
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1789	0.1789	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	0.0008	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2295**	**0.2295**	**0.0382**	**0.0382**	**0.0382**
Block 675	Equipment	0.0000	0.0000	0.0565	0.0565	0.0641	0.0641	0.0523	0.0523	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.6664	0.6664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0032	0.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.7261**	**0.7261**	**0.0641**	**0.0641**	**0.0523**	**0.0523**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2208	0.2208	0.1567	0.1567	0.3360	0.3360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5211	0.5211	0.0005	0.0005	0.0030	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0032	0.0032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.7451**	**0.7451**	**0.1572**	**0.1572**	**0.3390**	**0.3390**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-33
PM2.5 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0479	0.0479	0.0352	0.0352	0.0352	0.0352	0.0352	0.0114	0.0114	0.0055	0.0055
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0521	0.0521	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1005**	**0.0999**	**0.0352**	**0.0352**	**0.0352**	**0.0352**	**0.0352**	**0.0114**	**0.0114**	**0.0055**	**0.0055**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0686	0.0686	0.0686	0.0590	0.0590	0.0590	0.0590	0.0590	0.0542	0.0316	0.0316	0.0316	0.0316
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0625	0.0625	0.0625	0.0885	0.0885	0.0885	0.0885	0.0885	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014	0.0014	0.0025	0.0025	0.0025	0.0025	0.0025	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1325**	**0.1325**	**0.1325**	**0.1500**	**0.1500**	**0.1500**	**0.1500**	**0.1500**	**0.0542**	**0.0316**	**0.0316**	**0.0316**	**0.0316**
Launch Site A	Equipment	0.0000	0.0630	0.0630	0.0590	0.0590	0.0590	0.0590	0.0590	0.0370	0.0370	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364	0.0364
	Activity	0.0000	0.0587	0.0587	0.0533	0.0533	0.0533	0.0533	0.0533	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0019	0.0019	0.0016	0.0016	0.0016	0.0016	0.0016	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.1236**	**0.1236**	**0.1139**	**0.1139**	**0.1139**	**0.1139**	**0.1139**	**0.0370**	**0.0370**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**	**0.0364**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0883	0.0495	0.0495	0.0495	0.0274	0.0274	0.0274	0.0274	0.0274	0.0179	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0127	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.1012**	**0.0495**	**0.0495**	**0.0495**	**0.0274**	**0.0274**	**0.0274**	**0.0274**	**0.0274**	**0.0179**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	0.0370	0.2645	0.0370	0.0370	0.1545	0.1545	0.1545	0.1545	0.1545	0.1545	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370
	Activity	0.0000	0.0000	0.0000	0.0813	0.0000	0.0000	0.0318	0.0318	0.0318	0.0318	0.0318	0.0318	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0006	0.0000	0.0000	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0370**	**0.3464**	**0.0370**	**0.0370**	**0.1866**	**0.1866**	**0.1866**	**0.1866**	**0.1866**	**0.1866**	**0.0370**	**0.0370**	**0.0370**	**0.0370**	**0.0370**	**0.0370**	**0.0370**	**0.0370**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0458	0.0458	0.0351	0.0351	0.0351
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0174	0.0174	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0003	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0635**	**0.0635**	**0.0351**	**0.0351**	**0.0351**
Block 675	Equipment	0.0000	0.0000	0.0521	0.0521	0.0590	0.0590	0.0482	0.0482	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.1096	0.1096	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0012	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.1628**	**0.1628**	**0.0590**	**0.0590**	**0.0482**	**0.0482**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2025	0.2025	0.1437	0.1437	0.3081	0.3081	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0832	0.0832	0.0000	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012	0.0012	0.0031	0.0031	0.0031	0.0031	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2869**	**0.2869**	**0.1468**	**0.1468**	**0.3113**	**0.3113**	**0.0031**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-33
PM2.5 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Cam Yards	Equipment	0.0000	0.0422	0.0422	0.0780	0.0780	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527	0.0527
	Activity	0.0000	0.0245	0.0245	0.1596	0.1596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0003	0.0003	0.0014	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0670**	**0.0670**	**0.2390**	**0.2390**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**	**0.0527**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1756	0.1756	0.1351	0.1351	0.1445	0.1445	0.0456	0.0456	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0650	0.0650	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0154	0.0154	0.0011	0.0011	0.0011	0.0011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2407**	**0.2407**	**0.1506**	**0.1506**	**0.1456**	**0.1456**	**0.0467**	**0.0467**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	0.0756	0.0756	0.1015	0.1015	0.1015	0.1015	0.1015	0.1015	0.1015	0.1015	0.1015	0.1015	0.0534	0.0534	0.0534	0.0534	0.0534	0.0000	0.0000
	Activity	0.0000	0.0557	0.0557	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000
	VMT-Off site	0.0000	0.0015	0.0015	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0088	0.0088	0.0088	0.0088	0.0088	0.0000	0.0000
	Total	**0.0000**	**0.1327**	**0.1327**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.1097**	**0.0623**	**0.0623**	**0.0623**	**0.0623**	**0.0623**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.1176	0.1176	0.1576	0.1576	0.1576	0.1576	0.1576	0.1576	0.0924	0.0924	0.0924	0.0924	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stage 1	Activity	0.0000	0.1277	0.1277	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0014	0.0014	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076	0.0040	0.0040	0.0040	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.2467**	**0.2467**	**0.1652**	**0.1652**	**0.1652**	**0.1652**	**0.1652**	**0.1652**	**0.0965**	**0.0965**	**0.0965**	**0.0965**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0624	0.0624	0.1117	0.1117	0.1117	0.1117	0.0369	0.0369	0.0369	0.0000	0.0000
Stage 2	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0594	0.0594	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0144	0.0144	0.0057	0.0057	0.0057	0.0057	0.0057	0.0006	0.0006	0.0006	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0144**	**0.1361**	**0.1274**	**0.1175**	**0.1175**	**0.1175**	**0.1175**	**0.0375**	**0.0375**	**0.0375**	**0.0000**	**0.0000**

PM2.5 QUARTERLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

	2005				2006				2007				2008				2009			
Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05
Equipment	0.0000	0.2984	0.3874	0.7125	0.4919	0.4666	0.9514	1.0199	0.8505	0.9839	1.1086	1.1453	0.6208	0.4584	0.4127	0.3790	0.3325	0.3219	0.2161	0.1982
Activity	0.0000	0.2665	0.3761	0.4040	0.2130	0.0534	0.2334	0.2959	0.0945	0.2186	0.2319	0.1206	0.0886	0.0887	0.0887	0.0174	0.0174	0.0001	0.0000	0.0000
VMT-Off site	0.0000	0.0051	0.0062	0.0207	0.0189	0.0175	0.0190	0.0205	0.0505	0.0476	0.0250	0.0250	0.0247	0.0182	0.0170	0.0097	0.0097	0.0094	0.0000	0.0000
Total	0.0000	0.5700	0.7697	1.1371	0.7238	0.5375	1.2038	1.3363	0.9954	1.2501	1.3656	1.2909	0.7341	0.5652	0.5185	0.4061	0.3597	0.3313	0.2161	0.1982

PM2.5 YEARLY TOTALS BY SOURCE (ALL SITES) - MAXIMUM MITIGATION

	YEAR				
Source	2005	2006	2007	2008	2009
Equipment	1.40	2.93	4.09	1.87	1.07
Activity	1.05	0.80	0.67	0.28	0.02
VMT-Off site	0.03	0.08	0.15	0.07	0.02
Total	2.48	3.80	4.90	2.22	1.11

Table V-34
NOx EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.6698	5.6698	4.3190	4.3190	4.3190	4.3190	4.3190	1.4431	1.4431	0.6955	0.6955
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0059	0.0059	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.6757**	**5.6757**	**4.3190**	**4.3190**	**4.3190**	**4.3190**	**4.3190**	**1.4431**	**1.4431**	**0.6955**	**0.6955**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.6705	8.6705	8.6705	6.8690	6.8690	6.8690	6.8690	6.8690	6.4621	4.1811	4.1811	4.1811	4.1811
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0079	0.0079	0.0079	0.0126	0.0126	0.0126	0.0126	0.0126	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.6784**	**8.6784**	**8.6784**	**6.8816**	**6.8816**	**6.8816**	**6.8816**	**6.8816**	**6.4621**	**4.1811**	**4.1811**	**4.1811**	**4.1811**
Launch Site A	Equipment	0.0000	7.9048	7.9048	6.8690	6.8690	6.8690	6.8690	6.8690	3.7046	3.7046	3.8279	3.8279	3.8279	3.8279	3.8279	3.8279	3.8279	3.8279	3.8279	3.8279
	Activity	0.0000	0.0102	0.0102	0.0073	0.0073	0.0073	0.0073	0.0073	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**7.9150**	**7.9150**	**6.8763**	**6.8763**	**6.8763**	**6.8763**	**6.8763**	**3.7046**	**3.7046**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**	**3.8279**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10.3277	6.0552	6.0552	6.0552	2.8908	2.8908	2.8908	2.8908	2.8908	2.2334	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**10.3286**	**6.0552**	**6.0552**	**6.0552**	**2.8908**	**2.8908**	**2.8908**	**2.8908**	**2.8908**	**2.2334**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	3.7046	13.0329	3.7046	3.7046	8.9460	8.9460	8.9460	8.9460	8.9460	8.9460	3.7046	3.7046	3.7046	3.7046	3.7046	3.7046	3.7046	3.7046
	Activity	0.0000	0.0000	0.0000	0.0129	0.0000	0.0000	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**3.7046**	**13.0458**	**3.7046**	**3.7046**	**8.9515**	**8.9515**	**8.9515**	**8.9515**	**8.9515**	**8.9515**	**3.7046**	**3.7046**	**3.7046**	**3.7046**	**3.7046**	**3.7046**	**3.7046**	**3.7046**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.4919	5.4919	4.4573	4.4573	4.4573
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0014	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.4933**	**5.4933**	**4.4573**	**4.4573**	**4.4573**
Block 675	Equipment	0.0000	0.0000	6.4575	6.4575	6.9952	6.9952	4.4588	4.4588	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0222	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**6.4797**	**6.4797**	**6.9952**	**6.9952**	**4.4588**	**4.4588**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.1501	5.1501	3.4133	3.4133	7.1699	7.1699	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0045	0.0045	0.0007	0.0007	0.0022	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.1545**	**5.1545**	**3.4139**	**3.4139**	**7.1721**	**7.1721**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-34
NOx EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	5.2057	5.2057	8.9544	8.9544	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764	6.6764
	Activity	0.0000	0.0031	0.0031	0.0459	0.0459	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**5.2087**	**5.2087**	**9.0003**	**9.0003**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**	**6.6764**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.2572	4.2572	3.2873	3.2873	3.5228	3.5228	1.4651	1.4651	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0006	0.0026	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.2578**	**4.2578**	**3.2899**	**3.2899**	**3.5228**	**3.5228**	**1.4651**	**1.4651**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	9.1819	9.1819	12.1189	12.1189	12.1189	12.1189	12.1189	12.1189	12.1189	12.1189	12.1189	12.1189	6.5146	6.5146	6.5146	6.5146	6.5146	0.0000	0.0000
	Activity	0.0000	0.0140	0.0140	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0044	0.0044	0.0044	0.0044	0.0044	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**9.1959**	**9.1959**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**12.1259**	**6.5190**	**6.5190**	**6.5190**	**6.5190**	**6.5190**	**0.0000**	**0.0000**
Conv. Center Stage 1	Equipment	0.0000	15.3671	15.3671	18.8319	18.8319	18.8319	18.8319	18.8319	18.8319	10.5558	10.5558	10.5558	10.5558	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0254	0.0254	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0019	0.0019	0.0019	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**15.3925**	**15.3925**	**18.8367**	**18.8367**	**18.8367**	**18.8367**	**18.8367**	**18.8367**	**10.5577**	**10.5577**	**10.5577**	**10.5577**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center Stage 2	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.8782	7.8782	13.8222	13.8222	13.8222	13.8222	4.6769	4.6769	4.6769	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0127	0.0127	0.0034	0.0034	0.0034	0.0034	0.0003	0.0003	0.0003	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.8909**	**7.8909**	**13.8256**	**13.8256**	**13.8256**	**13.8256**	**4.6772**	**4.6772**	**4.6772**	**0.0000**	**0.0000**

NOx QUARTERLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

	2005				2006				2007				2008				2009			
Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05
Equipment	0.0000	37.6594	47.8215	66.2646	57.4740	55.1959	67.3082	75.9788	65.6488	81.2484	79.2900	83.8831	69.4140	50.0894	48.6243	44.5641	39.4072	38.3726	25.7760	23.5427
Activity	0.0000	0.0527	0.0750	0.1001	0.0649	0.0191	0.0296	0.0375	0.0284	0.0451	0.0478	0.0326	0.0249	0.0204	0.0204	0.0060	0.0060	0.0046	0.0000	0.0000
VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	37.7121	47.8964	66.3647	57.5389	55.2150	67.3379	76.0163	65.6772	81.2935	79.3378	83.9157	69.4389	50.1098	48.6447	44.5701	39.4132	38.3772	25.7760	23.5427

NOx YEARLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

	YEAR				
Source	2005	2006	2007	2008	2009
Equipment	151.75	255.96	310.07	212.69	127.10
Activity	0.23	0.15	0.15	0.07	0.01
VMT-Off site	0.00	0.00	0.00	0.00	0.00
Total	151.97	256.11	310.22	212.76	127.11

Table V-35
CO EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Conv. Enter Hotel	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6462	0.6462	0.4972	0.4972	0.4972	0.4972	0.4972	0.1512	0.1512	0.0729	0.0729
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.6510**	**0.6510**	**0.4972**	**0.4972**	**0.4972**	**0.4972**	**0.4972**	**0.1512**	**0.1512**	**0.0729**	**0.0729**
Terminal Station 34th	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9709	0.9709	0.9709	0.7992	0.7992	0.7992	0.7992	0.7992	0.7509	0.4948	0.4948	0.4948	0.4948
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0063	0.0063	0.0063	0.0100	0.0100	0.0100	0.0100	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9772**	**0.9772**	**0.9772**	**0.8093**	**0.8093**	**0.8093**	**0.8093**	**0.8093**	**0.7509**	**0.4948**	**0.4948**	**0.4948**	**0.4948**
Launch Site A	Equipment	0.0000	0.8926	0.8926	0.7992	0.7992	0.7992	0.7992	0.7992	0.4167	0.4167	0.4239	0.4239	0.4239	0.4239	0.4239	0.4239	0.4239	0.4239	0.4239	0.4239
	Activity	0.0000	0.0036	0.0036	0.0058	0.0058	0.0058	0.0058	0.0058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.8962**	**0.8962**	**0.8051**	**0.8051**	**0.8051**	**0.8051**	**0.8051**	**0.4167**	**0.4167**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**	**0.4239**
Fan Plant Site N	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1692	0.7026	0.7026	0.7026	0.3200	0.3200	0.3200	0.3200	0.3200	0.2233	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1701**	**0.7026**	**0.7026**	**0.7026**	**0.3200**	**0.3200**	**0.3200**	**0.3200**	**0.3200**	**0.2233**	**0.0000**
Retrieval Site L	Equipment	0.0000	0.0000	0.4167	1.4698	0.4167	0.4167	1.0226	1.0226	1.0226	1.0226	1.0226	1.0226	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167	0.4167
	Activity	0.0000	0.0000	0.0000	0.0100	0.0000	0.0000	0.0043	0.0043	0.0043	0.0043	0.0043	0.0043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.4167**	**1.4798**	**0.4167**	**0.4167**	**1.0268**	**1.0268**	**1.0268**	**1.0268**	**1.0268**	**1.0268**	**0.4167**	**0.4167**	**0.4167**	**0.4167**	**0.4167**	**0.4167**	**0.4167**	**0.4167**
Midblock Park & Blvd.	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6251	0.6251	0.5287	0.5287	0.5287
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0011	0.0011	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.6262**	**0.6262**	**0.5287**	**0.5287**	**0.5287**
Block 675	Equipment	0.0000	0.0000	0.7213	0.7213	0.7876	0.7876	0.5151	0.5151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0169	0.0169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.7382**	**0.7382**	**0.7876**	**0.7876**	**0.5151**	**0.5151**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
DS 33, Block 729	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9688	0.9688	0.6610	0.6610	1.3775	1.3775	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0035	0.0035	0.0005	0.0005	0.0017	0.0017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9723**	**0.9723**	**0.6615**	**0.6615**	**1.3792**	**1.3792**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Table V-35
CO EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009 WITH MITIGATION

		2005				2006				2007				2008				2009			
Site	Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	0.5901	0.5901	0.9855	0.9855	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996	0.6996
	Activity	0.0000	0.0023	0.0023	0.0349	0.0349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.5924**	**0.5924**	**1.0204**	**1.0204**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**	**0.6996**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8037	0.8037	0.6307	0.6307	0.6717	0.6717	0.2718	0.2718	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0005	0.0021	0.0021	0.0002	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.8041**	**0.8041**	**0.6327**	**0.6327**	**0.6719**	**0.6719**	**0.2719**	**0.2719**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	1.0142	1.0142	1.3319	1.3319	1.3319	1.3319	1.3319	1.3319	1.3319	1.3319	1.3319	1.3319	0.6901	0.6901	0.6901	0.6901	0.6901	0.0000	0.0000
	Activity	0.0000	0.0106	0.0106	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0033	0.0033	0.0033	0.0033	0.0033	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**1.0249**	**1.0249**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**1.3373**	**0.6934**	**0.6934**	**0.6934**	**0.6934**	**0.6934**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	1.7589	1.7589	2.0875	2.0875	2.0875	2.0875	2.0875	2.0875	1.1397	1.1397	1.1397	1.1397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stage 1	Activity	0.0000	0.0193	0.0193	0.0037	0.0037	0.0037	0.0037	0.0037	0.0037	0.0015	0.0015	0.0015	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**1.7782**	**1.7782**	**2.0912**	**2.0912**	**2.0912**	**2.0912**	**2.0912**	**2.0912**	**1.1412**	**1.1412**	**1.1412**	**1.1412**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9073	0.9073	1.5798	1.5798	1.5798	1.5798	0.4901	0.4901	0.4901	0.0000	0.0000
Stage 2	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0097	0.0097	0.0027	0.0027	0.0027	0.0027	0.0002	0.0002	0.0002	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.9170**	**0.9170**	**1.5825**	**1.5825**	**1.5825**	**1.5825**	0.0000	**0.4903**	**0.4903**	**0.0000**	**0.0000**

CO QUARTERLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

	2005				2006				2007				2008				2009			
Source	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05
Equipment	0.0000	4.2558	5.3938	7.3953	6.4084	6.1225	8.2284	9.1993	7.8208	9.5958	9.7222	10.2456	7.8623	5.6982	5.4265	4.9135	4.3114	4.2150	2.8598	2.6365
Activity	0.0000	0.0358	0.0527	0.0766	0.0497	0.0149	0.0231	0.0293	0.0221	0.0352	0.0376	0.0257	0.0197	0.0162	0.0160	0.0046	0.0046	0.0035	0.0000	0.0000
VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	4.2916	5.4465	7.4718	6.4582	6.1374	8.2514	9.2286	7.8430	9.6311	9.7597	10.2713	7.8820	5.7144	5.4425	4.9181	4.3160	4.2185	2.8598	2.6365

CO YEARLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

	YEAR				
Source	2005	2006	2007	2008	2009
Equipment	17.04	29.96	37.38	23.90	14.02
Activity	0.17	0.12	0.12	0.06	0.01
VMT-Off site	0.00	0.00	0.00	0.00	0.00
Total	17.21	30.08	37.51	23.96	14.03

Table V-36
24-hr PM10 Emission Rates from On-Site Construction Activities with Maximum Mitigation

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	N of Block 680	N of Block 680
Quarterly Emissions (tons/quarter)	0.000	0.000	0.73	0.29	0.16	0.16	0.16	0.34	0.34	0.34
Estimated Emissions (g/sec)	0.000	0.000	0.102	0.040	0.023	0.023	0.023	0.047	0.047	0.047
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	0.000E+00	0.000E+00	1.823E-05	9.780E-07	4.671E-06	7.364E-07	2.727E-06	8.441E-06	7.090E-06	7.080E-06

Table V-32
PM10 EMISSIONS FROM ON-SITE CONSTRUCTION ACTIVITIES 2005-2009
WITH MITIGATION

Site	Source	2005				2006				2007				2008				2009			
		1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/06-3/06	4/06-6/06	7/06-9/06	10/06-12/06	1/07-3/07	4/07-6/07	7/07-9/07	10/07-12/07	1/08-3/08	4/08-6/08	7/08-9/08	10/08-12/08	1/09-3/09	4/09-6/09	7/09-9/09	10/09-12/09
Eastern Camden Yards	Equipment	0.0000	0.0458	0.0458	0.0846	0.0846	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572	0.0572
	Activity	0.0000	0.2390	0.2390	0.8374	0.8374	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0009	0.0009	0.0133	0.0133	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.2857**	**0.2857**	**0.9353**	**0.9353**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**	**0.0572**
DS14	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1916	0.1916	0.1473	0.1473	0.1576	0.1576	0.0496	0.0496	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5530	0.5530	0.0021	0.0021	0.0002	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0002	0.0000	0.0000	0.0031	0.0031	0.0031	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.7448**	**0.7448**	**0.1494**	**0.1494**	**0.1609**	**0.1609**	**0.0529**	**0.0529**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
MUF	Equipment	0.0000	0.0821	0.0821	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.1102	0.0580	0.0580	0.0580	0.0580	0.0580	0.0000	0.0000
	Activity	0.0000	0.4052	0.4052	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0022	0.0022	0.0022	0.0022	0.0022	0.0000	0.0000
	VMT-Off site	0.0000	0.0040	0.0040	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0226	0.0243	0.0243	0.0243	0.0243	0.0243	0.0000	0.0000
	Total	**0.0000**	**0.4913**	**0.4913**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.1362**	**0.0845**	**0.0845**	**0.0845**	**0.0845**	**0.0845**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.1277	0.1277	0.1711	0.1711	0.1711	0.1711	0.1711	0.1711	0.1003	0.1003	0.1003	0.1003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stage 1	Activity	0.0000	0.8791	0.8791	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0010	0.0010	0.0010	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	VMT-Off site	0.0000	0.0039	0.0039	0.0209	0.0209	0.0209	0.0209	0.0209	0.0209	0.0111	0.0111	0.0111	0.0111	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	**0.0000**	**1.0108**	**1.0108**	**0.1943**	**0.1943**	**0.1943**	**0.1943**	**0.1943**	**0.1943**	**0.1125**	**0.1125**	**0.1125**	**0.1125**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Conv. Center	Equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0677	0.0677	0.1213	0.1213	0.1213	0.1213	0.0401	0.0401	0.0401	0.0000	0.0000
Stage 2	Activity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3636	0.3636	0.0017	0.0017	0.0017	0.0017	0.0001	0.0001	0.0001	0.0000	0.0000
	VMT-Off site	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0395	0.0395	0.0157	0.0157	0.0157	0.0157	0.0157	0.0015	0.0015	0.0015	0.0000	0.0000
	Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0395**	**0.4709**	**0.4471**	**0.1387**	**0.1387**	**0.1387**	**0.1387**	**0.0417**	**0.0417**	**0.0417**	**0.0000**	**0.0000**

PM10 QUARTERLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

Source	2005				2006				2007				2008				2009			
	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05	1/05-3/05	4/05-6/05	7/05-9/05	10/05-12/05
Equipment	0.0000	0.3241	0.4207	0.6106	0.5342	0.5067	0.9507	1.0251	0.8406	0.9855	1.1218	1.1617	0.6742	0.4978	0.4482	0.4115	0.3611	0.3495	0.2347	0.2152
Activity	0.0000	2.0035	2.6698	2.3276	1.0975	0.2602	1.4873	1.8511	0.5250	1.6943	1.3180	0.5946	0.4385	0.4363	0.4362	0.1813	0.1813	0.0024	0.0000	0.0000
VMT-Off site	0.0000	0.0139	0.0172	0.0663	0.0613	0.0480	0.0524	0.0563	0.0879	0.0800	0.0603	0.0603	0.0594	0.0500	0.0469	0.0266	0.0266	0.0258	0.0000	0.0000
Total	0.0000	2.3415	3.1077	3.0045	1.6930	0.8149	2.4903	2.9325	1.4535	2.7598	2.5002	1.8166	1.1722	0.9842	0.9313	0.6194	0.5690	0.3777	0.2347	0.2152

PM10 YEARLY TOTALS BY SOURCE (ALL SITES) WITH MAXIMUM MITIGATION

Source	YEAR				
	2005	2006	2007	2008	2009
Equipment	1.36	3.02	4.11	2.03	1.16
Activity	7.00	4.70	4.13	1.49	0.18
VMT-Off site	0.10	0.22	0.29	0.18	0.05
Total	8.45	7.93	8.53	3.71	1.40

Table V-37
Annual PM10 Emission Rates from On-Site Construction Activities with Maximum Mitigation

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Annual Emissions (tons/quarter)	0.00	0.00	1.45	1.51	0.37	0.37	0.37	0.74	0.74	0.74
Estimated Emissions (g/sec)	0.000	0.000	0.042	0.043	0.011	0.011	0.011	0.021	0.021	0.021
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	0.000E+00	0.000E+00	7.491E-06	1.060E-06	2.186E-06	3.446E-07	1.276E-06	3.802E-06	3.194E-06	3.189E-06

Table V-38
24-hr PM2.5 Emission Rates from On-Site Construction Activities with Maximum Mitigation

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Quarterly Emissions (tons/quarter)	0.088	0.044	0.05	0.05	0.04	0.04	0.04	0.06	0.06	0.06
Estimated Emissions (g/sec)	0.012	0.006	0.007	0.007	0.005	0.005	0.005	0.008	0.008	0.008
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	2.903E-06	2.903E-06	1.209E-06	1.803E-07	1.043E-06	1.644E-07	6.088E-07	1.380E-06	1.159E-06	1.157E-06

Table V-39
Annual PM2.5 Emission Rates from On-Site Activities with Maximum Mitigation

Emission Rates	Terminal Station 34 Street		DSNY Tow Pound	Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1			Total
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680	
Annual Emissions (tons/quarter)	0.09	0.04	0.21	0.40	0.15	0.15	0.15	0.22	0.22	0.22	1.84
Estimated Emissions (g/sec)	0.003	0.001	0.006	0.011	0.004	0.004	0.004	0.006	0.006	0.006	0.05
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662	116,209
Estimated Emission Rates ($g/sec\text{-}m^2$)	5.965E-07	5.965E-07	1.105E-06	2.793E-07	8.570E-07	1.351E-07	5.004E-07	1.134E-06	9.525E-07	9.512E-07	7.11E-06

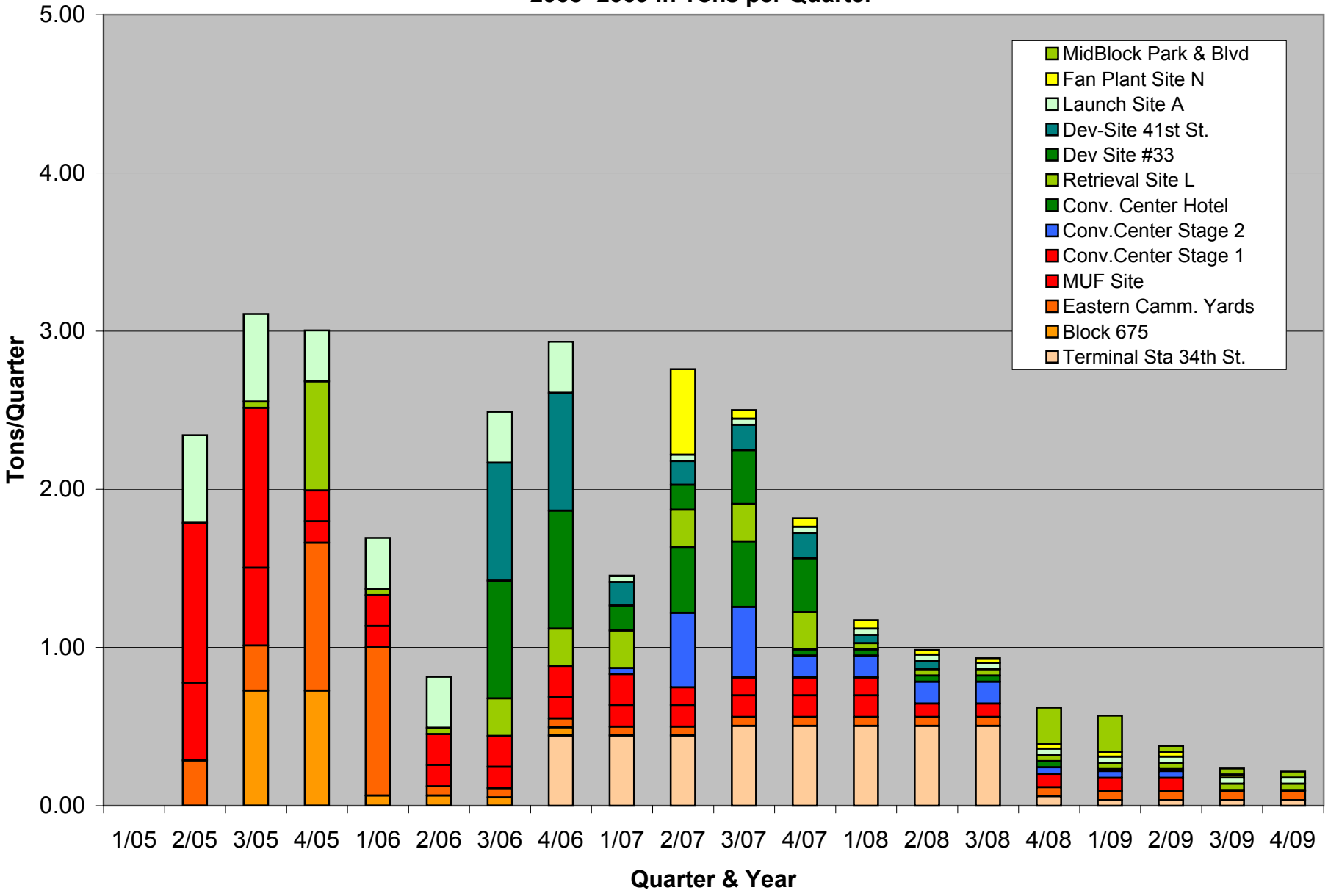
Table V-40
NOx Emission Rates from On-Site Construction Activities with Maximum Mitigation

Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	North of Block 680	East of Block 680
Quarterly Emissions (tons/quarter)	5.79	2.89	22.91	29.03	16.17	16.17	16.17	25.12	25.12	25.12
Estimated Emissions (g/sec)	0.166	0.083	0.659	0.835	0.465	0.465	0.465	0.722	0.722	0.722
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates ($g/sec\text{-}m^2$)	3.907E-05	3.907E-05	1.182E-04	2.042E-05	9.476E-05	1.494E-05	5.533E-05	1.293E-04	1.086E-04	1.084E-04

Table V-41
CO Emission Rates from On-Site Construction Activities with Maximum Mitigation

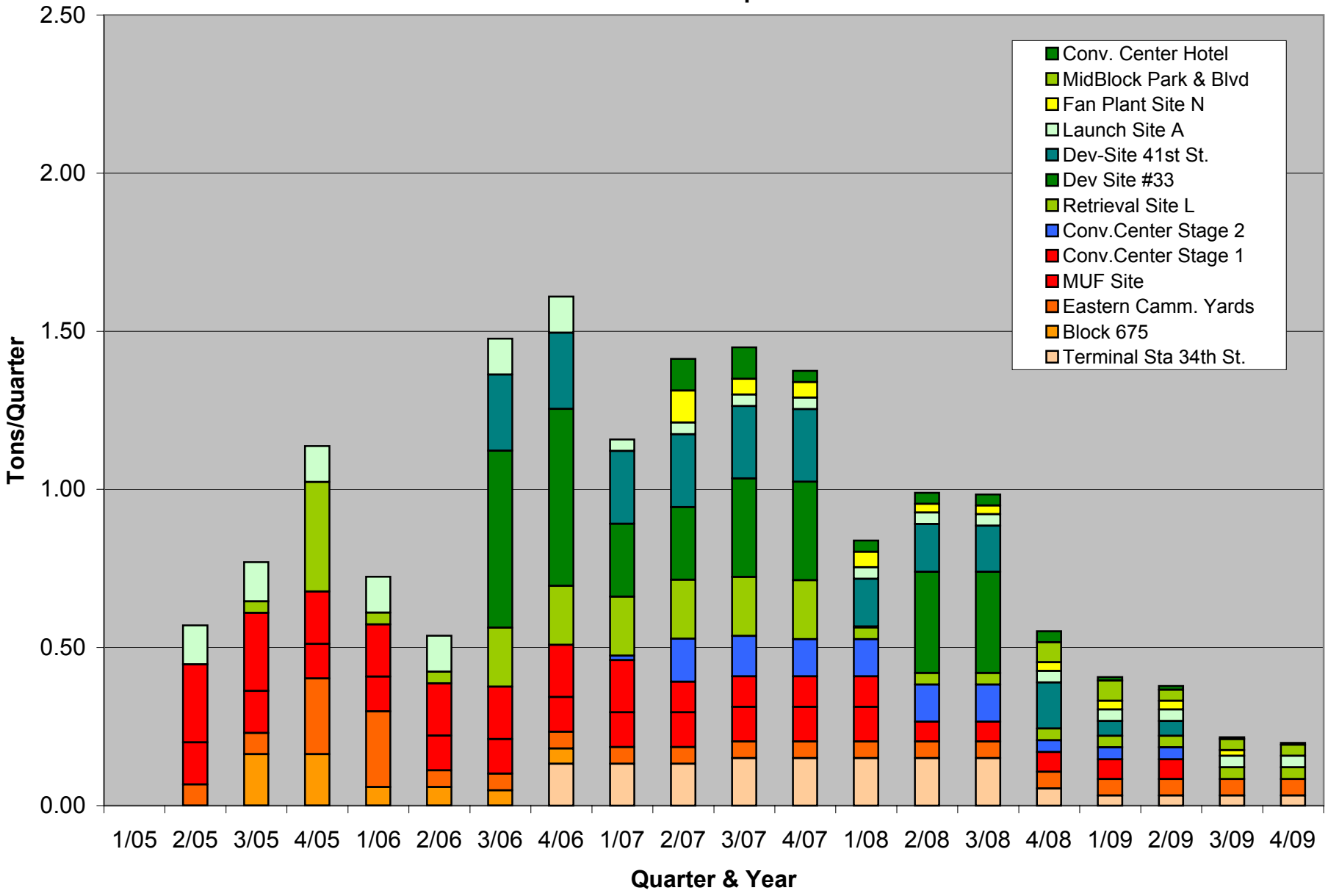
Emission Rates	Terminal Station 34 Str.	Terminal Station 34 Str.		Eastern Cam.Yards	MUF Site			Conv. Center, Stage 1		
	Block 705	Block 706	Block 675	Blocks 702&704	Blocks 676	Blocks 676	Blocks 679	Block 685	N of Block 680	N of Block 680
Quarterly Emissions (tons/quarter)	0.651	0.326	0.52	0.70	0.45	0.45	0.45	0.70	0.70	0.70
Estimated Emissions (g/sec)	0.137	0.068	0.165	0.224	0.143	0.143	0.143	0.223	0.223	0.223
Area, m^2	4,260	2,130	5,577	40,892	4,908	31,133	8,406	5,588	6,653	6,662
Estimated Emission Rates (g/sec-m^2)	3.211E-05	3.211E-05	2.957E-05	5.478E-06	2.908E-05	4.585E-06	1.698E-05	3.994E-05	3.355E-05	3.350E-05

Figure V-7
Quarterly PM10 Emissions from Construction Activities
with Emission Reduction Measures
2005 -2009 in Tons per Quarter



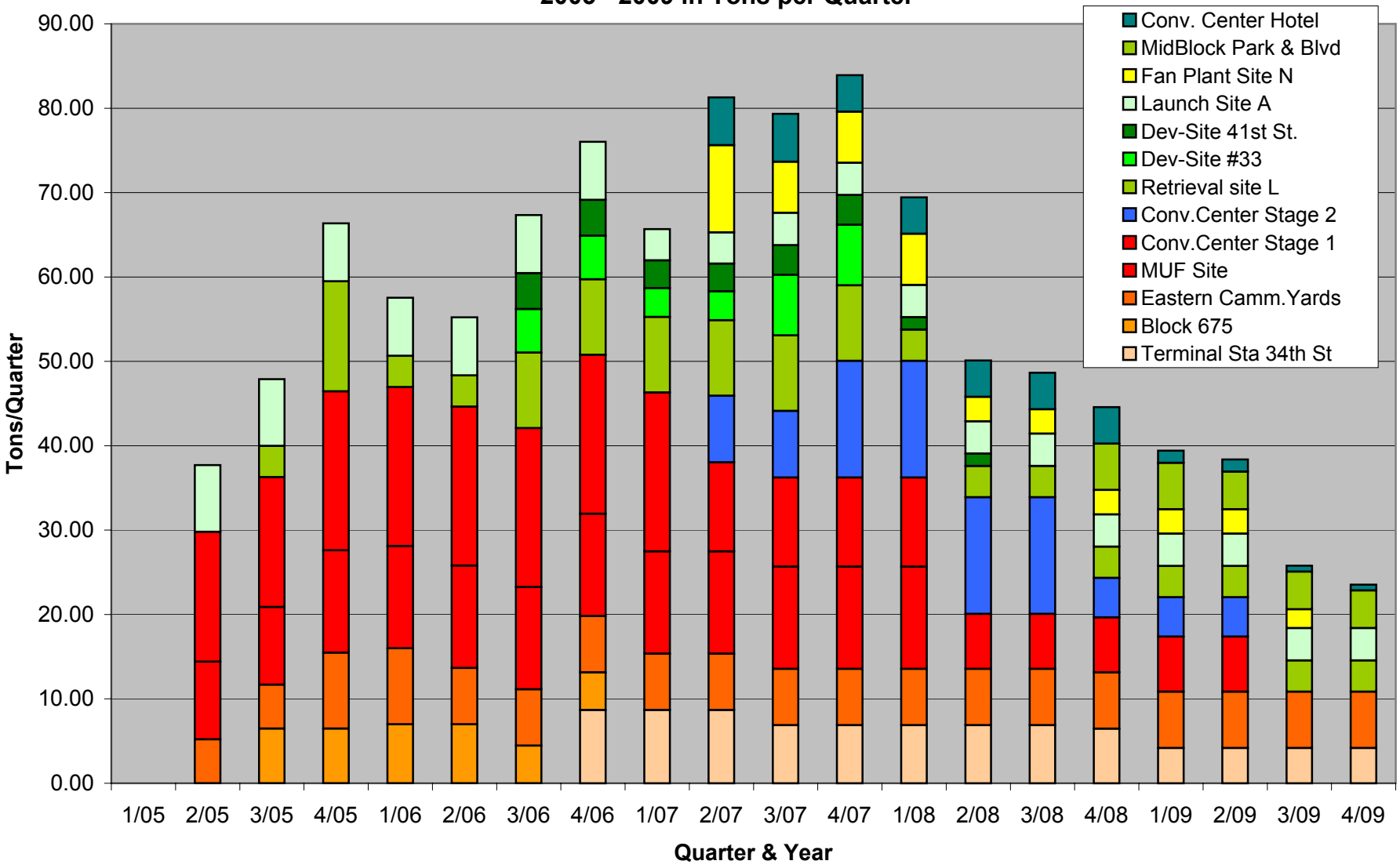
Final GEIS Const Emiss Mitigation 10-19-04.xls, Fig V-7 ERM PM10

Figure V-8
Quarterly PM2.5 Emissions from Construction Activities
with Emission Reduction Measures
2005 -2009 in Tons per Quarter



Final GEIS Const Emiss Mitigation 10-19-04.xls, Fig V-8 ERM PM2.5

Figure V- 9
Quarterly NOx Emissions From Construction Equipment
With Emission Reduction Measures
2005 - 2009 in Tons per Quarter



Final GEIS Const Emiss Mitigation 10-19-04.xls, Fig V-9 ERM NOx

Table V-42 provides the annual emission reductions for all 13 sites due to implementation of the emission control program.

TABLE V-42
ANNUAL EMISSIONS REDUCTIONS FROM CONSTRUCTION EQUIPMENT AND ACTIVITIES DUE TO IMPLEMENTATION OF EMISSION CONTROL MEASURES

Pollutant	Tons/year				
	2005	2006	2007	2008	2009
CO	23.97	35.01	39.35	35.55	17.97
NOx	41.83	90.57	98.20	105.73	45.96
PM_{10}	20.02	14.97	17.43	10.78	3.95
$PM_{2.5}$	5.69	7.65	8.32	7.31	3.28

The potential ambient air quality impacts on NO_2, PM_{10} and $PM_{2.5}$ levels at the same cluster of sites during 2005/2006 with these emission reductions are presented in Table V-43. This table includes the cumulative impacts from on-site operations (i.e., diesel-powered construction equipment and fugitive dust emissions) and off-site operations (i.e., traffic effects due to trucking activity and lane closings).

TABLE V-43
HIGHEST PREDICTED POLLUTANT CONCENTRATIONS WITH IMPLEMENTATION OF EMISSION REDUCTIONS MEASURES

Pollutant	Average Period	NAAQS/ (DEP STV)	Receptor Type	Cumulative Increment	Background/ Baseline Level[1]	Total Predicted Concentration
PM10 ($\mu g/m^3$)	24-Hour	150	Sidewalk	27.3	56.4	83.7
			Residential	7.1	56.4	63.5
	Annual	50	Sidewalk	2.8	26.0	33.0
			Residential	1.1	26.0	25.0
$PM_{2.5}$ ($\mu g/m^3$)	24-Hour	65 5 (DEP)	Sidewalk	4.7	40	44.7
			Residential	1.1		41.1
	Annual	15 0.1 (DEP)	Neighborhood	0.08	17.5	17.6
NO_2 ($\mu g/m^3$)	Annual	100	Sidewalk	19.0	71	90.0
			Residential	6.0		76.0
CO (PPM)	8-Hour	9.0	Sidewalk	0.5	4.9	5.4
			Residential	0.5	4.9	5.4

1 Background level estimation for PM10, NO2, and CO is described in Chapter 21. Baseline includes the Future Without the Proposed Action contribution of baseline traffic emissions for PM10 and CO. PM2.5 baseline is based on the 2001-2003 average of the 24-hour 98th percentile and annual average levels measured by the NYSDEC at the PS 59 monitoring station. Annual PM2.5 monitored levels already exceed the NAAQS.
2 PM2.5 levels are compared to the NYC DEP Significant Threshold Values, as annual baseline monitored levels already exceed the NAAQS.

As observed in Table V-43, when these predicted increments are added to the background levels for CO, NO_2, PM_{10}, and 24-hour $PM_{2.5}$ the results indicate that the total concentrations are expected to comply with the NAAQS for all four pollutants, and the DEP $PM_{2.5}$ STVs.

2. TRAFFIC DURING CONSTRUCTION

The Highway Capacity Software (HCS) 2000 summary output for the construction traffic analysis is provided on Tables V-44 through V-49. These tables, described below, provide the results of the construction traffic analysis.

- Table V-44 – Vehicle capacity ratio (v/c), level of service (LOS), delay, approach LOS and approach delay in the AM, midday and PM peak periods for the 21 analyzed intersections in the 2006 Future Without the Proposed Action.
- Table V-45 – Vehicle capacity ratio (v/c), level of service (LOS), delay, approach LOS and approach delay un the AM, midday and PM peak periods for the 21 analyzed intersections in the 2006 Future With the Proposed Action.

- Table V-46 – A comparison of the approach LOS and approach delay in the AM peak period between the 2006 Future Without the Proposed Action and the 2006 Future With the Proposed Action for the 21 analyzed intersections.
- Table V-47 – A comparison of the approach LOS and approach delay in the midday peak period between the 2006 Future Without the Proposed Action and the 2006 Future With the Proposed Action for the 21 analyzed intersections.
- Table V-48 – A comparison of the approach LOS and approach delay in the PM peak period between the 2006 Future Without the Proposed Action and the 2006 Future With the Proposed Action for the 21 analyzed intersections.
- Table V-49 – A comparison of the approach LOS and approach delay in the AM, midday and PM peak periods for the impacted intersections in the 2006 Future With the Proposed Action before and after they have been mitigated.

3. NOISE ANALYSIS

For the purposes of the noise analysis, construction under the Proposed Action is divided into three major categories: (1) construction of the No. 7 Subway Extension, (2) construction of public facilities – the Convention Center expansion, the Multi-Use Facility, and the Midblock Park and Boulevard System (with a mid-block parking garage), and (3) zoning-related private development.

As specified in the *CEQR Technical Manual*, detailed analysis is needed for large-scale construction following the FTA, FHWA, or EPA methodology. Accordingly, both the general assessment and the detailed noise assessment procedures detailed in the 1995 FTA manual were employed. The FTA manual accounts for (1) noise emissions of the construction equipment, (2) the amount of time each piece of equipment is in use, and (3) the distance between the equipment and the receptor. The combination of noise from several pieces of equipment operating during the same time period is obtained from addition of the L_{eq} values for each piece of equipment.

Maximum 1-hour L_{eq} values (without mitigation) were estimated following the general airborne noise assessment procedures, and the maximum 8-hour average L_{eq} and 30-day L_{dn} values were estimated for each of the 14 construction sites, following the detailed assessment procedures of the FTA guidelines for construction noise at the closest noise-sensitive receptors.

For the general airborne noise assessment, it was assumed that the two noisiest pieces of equipment would operate continuously at the same time. For the detailed airborne noise assessment, 8-hour L_{eq} values and 30-day average L_{dn} values were calculated assuming all appropriate usage factors for the specified time periods.

Tables V-50, V-51, and V-52 summarize the results of the noise assessment of prototypical construction activities. Tables V-53 to V-83 provide assumptions and results for each construction site analyzed.

TABLE V-44: 2006 FUTURE WITHOUT THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)														
				Weekday AM Peak (8:00 - 9:00 AM)					Weekday MD Peak (12:00 - 1:00 PM)					Weekday PM Peak (5:00 - 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
1	Eighth Avenue at West 40th Street	EB	LT	1.10	83.4	F	83.4	F	0.59	19.4	B	19.4	B	-	-	-	21.5	C
			T	-	-	-			-	-	-			0.70	21.5	C		
		NB	TR	1.07	66.6	E	66.6	E	0.87	27.0	C	27.0	C	1.00	41.9	D	41.9	D
			Intersection		72.9	E				24.8	C				36.0	D		
2	Dyer Avenue at West 34th Street	EB	T	0.69	33.2	C	33.2	C	0.84	41.0	D	41.0	D	0.63	30.8	C	30.8	C
		WB	T	0.28	0.51	A	5.0	A	0.34	5.5	A	5.4	A	0.26	4.9	A	4.8	A
		WB	R	0.05	4.0	A			0.20	4.9	A			0.12	4.4	A		
		SB	L	0.85	51.5	D	49.7	D	0.38	34.8	C	36.7	D	0.27	33.1	C	40.9	D
		SB	R	0.27	35.3	D			0.47	40.7	D			0.66	49.0	D		
			Intersection		28.4	C				23.7	C				21.6	C		
3	Tenth Avenue at West 43rd Street	WB	TR	0.63	27.1	C	27.1	C	0.76	32.5	C	32.5	C	0.94	50.1	D	50.1	D
		NB	LT	0.73	15.0	B	15.0	B	0.61	13.2	B	13.2	B	0.71	14.3	B	14.3	B
			Intersection		16.6	B				16.6	B				19.8	B		
4	Tenth Avenue at West 42nd Street	EB	DefL	0.98	124.5	F	55.6	E	-	-	-	128.6	F	-	-	-	29.1	C
		EB	T	0.64	34.5	C			1.20	128.6	F			0.54	29.1	C		
		EB	LT	-	-	-			-	-	-			-	-	-		
		WB	TR	1.04	68.0	E	68.0	E	1.07	81.1	F	81.1	F	0.98	50.6	D	50.6	D
		NB	LTR	0.67	14.1	B	14.1	B	0.79	16.9	B	16.9	B	0.76	15.4	B	15.4	B
			Intersection		35.2	D				48.2	D				26.2	C		
5	Tenth Avenue at West 34th Street	EB	DefL	0.94	71.1	E	44.0	D	0.97	84.9	F	86.1	F	0.83	59.6	E	36.1	D
		EB	T	0.34	23.6	C			1.04	86.7	F			0.29	22.9	C		
		WB	TR	0.50	25.5	C	25.5	C	0.95	52.4	D	52.4	D	0.53	26.0	C	26.0	C
		NB	LT	0.69	11.1	B	11.1	B	0.68	10.9	B	11.0	B	0.58	9.3	A	9.5	A
		NB	R	0.29	11.7	B			0.34	12.4	B			0.29	11.6	B		
			Intersection		19.0	B				32.1	C				15.4	B		
6	Tenth Avenue at West 30th Street	EB	LT	0.62	28.6	C	28.6	C	0.75	32.6	C	32.6	C	0.50	25.9	C	25.9	C
		NB	TR	0.64	10.3	B	10.3	B	0.58	9.6	A	9.6	A	0.70	11.0	B	11.0	B
			Intersection		14.4	B				15.9	B				13.5	B		
7	Eleventh Avenue at West 40th Street	EB	TR	0.61	38.6	D	38.6	D	0.52	35.3	D	35.3	D	0.39	32,0	C	32.0	C
		NB	R	0.16	6.5	A	6.5	A	0.16	6.5	A	6.5	A	0.16	6.5	A	6.5	A
		SB	L	0.28	7.2	A	7.0	A	0.20	6.7	A	7.1	A	0.32	7.5	A	7.3	A
		SB	TR	0.23	6.8	A			0.31	7.3	A			0.29	7.2	A		
			Intersection		9.7	A				9.0	A				8.3	A		
8	Eleventh Avenue at West 39th Street	EB	LR	0.79	44.0	D	44.0	D	0.67	35.9	D	35.9	D	0.73	38.1	D	38.1	D
		WB	L	0.53	27.7	C	26.7	C	0.63	30.3	C	28.7	C	0.08	20.2	C	20.2	C
		WB	LR	0.20	22.2	C			0.28	23.4	C			0.08	20.3	C		
		NB	T	0.12	10.1	B	10.1	B	0.10	10.0	A	10.0	A	0.12	10.1	B	10.1	B
		SB	T	0.30	11.4	B	11.4	B	0.42	12.5	B	12.5	B	0.34	11.7	B	11.7	B
			Intersection		18.7	B				17.7	B				15.5	B		

TABLE V-44: 2006 FUTURE WITHOUT THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS (CONTINUED)

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)															
				Weekday AM Peak (8:00 - 9:00 AM)					Weekday MD Peak (12:00 - 1:00 PM)					Weekday PM Peak (5:00 - 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
9	Eleventh Avenue at West 38th Street	NB	TR	0.11	6.2	A	6.2	A	0.09	6.1	A	6.1	A	0.12	6.3	A	6.3	A
		SB	LT	-	-	-	9.5	A	-	-	-	9.9	A	-	-	-	9.8	A
		SB	DefL	0.64	14.5	B			0.63	14.1	B			0.66	15.8	B		
		SB	T	0.33	7.5	A			0.47	8.6	A			0.35	7.7	A		
			Intersection		8.9	A				9.3	A				9.0	A		
10	Eleventh Avenue at West 37th Street	EB	LR	0.00	25.7	C	25.7	C	0.00	25.7	C	25.7	C	0.01	25.8	C	25.8	C
		WB	L	0.30	30.3	C	29.1	C	0.34	31.0	C	29.6	C	0.37	31.3	C	29.8	C
		WB	LR	0.24	28.7	C			0.26	29.1	C			0.29	29.3	C		
		WB	R	0.16	27.8	C			0.14	27.4	C			0.18	28.0	C		
		NB	T	0.14	6.4	A	6.4	A	0.14	6.4	A	6.4	A	0.16	6.5	A	6.5	A
		SB	T	0.28	7.1	A	7.1	A	0.38	7.8	A	7.8	A	0.25	7.0	A	7.0	A
			Intersection		10.3	B				10.5	B				11.1	B		
11	Eleventh Avenue at West 36th Street	NB	L	0.12	6.3	A	6.3	A	0.12	6.2	A	6.2	A	0.12	6.2	A	6.2	A
		SB	LTR	0.46	11.0	B	7.7	A	0.55	13.3	B	8.5	A	0.85	31.8	C	13.8	B
		SB	L	0.25	6.9	A			0.34	7.6	A			0.26	7.0	A		
			Intersection		7.4	A				8.1	A				21.1	B		
12	Eleventh Avenue at West 35th Street	WB	L	0.16	15.4	B	15.3	B	0.21	15.9	B	15.8	B	0.17	15.5	B	15.4	B
		WB	LR	0.16	15.4	B			0.21	15.9	B			0.17	15.5	B		
		WB	R	0.12	15.0	B			0.13	15.1	B			0.12	15.0	B		
		NB	T	0.11	14.7	B	14.7	B	0.10	14.7	B	14.7	B	0.12	14.8	B	14.8	B
		SB	T	0.30	16.2	B	16.2	B	0.46	18.0	B	18.0	B	0.30	16.2	B	16.2	B
			Intersection		15.8	B				17.1	B				15.8	B		
13	Eleventh Avenue at West 34th Street	EB	LTR	0.86	36.6	D	36.6	D	0.92	96.1	F	33.2	C	0.87	77.8	E	36.7	D
		EB	TR	-	-	-			0.50	19.6	B			0.45	22.6	C		
		EB	DefL	-	-	-			-	-	-			-	-	-		
		WB	DefL	1.02	113.6	F	47.4	D	-	-	-	68.6	E	-	-	-	34.5	C
		WB	TR	0.71	30.4	C			1.06	68.6	E			0.71	34.5	C		
		WB	LTR	-	-	-			-	-	-			-	-	-		
		SB	LTR	0.31	3.5	A	3.5	A	0.46	6.7	A	6.7	A	0.31	4.4	A	4.4	A
			Intersection		23.5	C				27.8	C				19.2	B		
14	Eleventh Avenue at West 33rd Street	EB	LT	0.37	27.5	C	27.5	C	0.35	27.1	C	27.1	C	0.50	29.3	C	29.3	C
		WB	TR	0.36	9.0	A	9.0	A	0.42	9.5	A	9.5	A	0.27	8.3	A	8.3	A
			Intersection		12.8	B				12.5	B				14.5	B		
15	Eleventh Avenue at West 30th Street	EB	T	0.43	18.5	B	18.5	B	0.39	18.0	B	18.0	B	0.34	17.3	B	17.3	B
		SB	R	0.49	18.4	B	18.4	B	0.57	19.5	B	19.5	B	0.43	17.7	B	17.7	B
			Intersection		18.4	B				19.2	B				17.6	B		
16	Eleventh Avenue at West 29th Street	WB	LT	0.44	18.4	B	18.4	B	0.31	16.8	B	16.8	B	0.31	16.8	B	16.8	B
		SB	TR	0.44	17.8	B	17.8	B	0.45	17.9	B	17.9	B	0.33	16.5	B	16.5	B
			Intersection		18.0	B				17.6	B				16.6	B		

TABLE V-44: 2006 FUTURE WITHOUT THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS (CONTINUED)

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)														
				Weekday AM Peak (8:00 - 9:00 AM)					Weekday MD Peak (12:00 - 1:00 PM)					Weekday PM Peak (5:00 - 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
17	Eleventh Avenue at West 26th Street	EB	TR	0.68	42.9	D	42.9	D	0.80	49.8	D	49.8	D	0.77	47.2	D	47.2	D
		SB	LT	0.22	6.7	A	6.7	A	0.22	6.7	A	6.7	A	0.15	6.3	A	6.3	A
			Intersection		11.8	B				13.8	B				15.6	B		
18	Eleventh Avenue at West 25th Street	WB	L	0.18	24.7	C	24.7	C	0.29	26.2	C	26.2	C	0.39	27.6	C	27.6	C
		SB	TR	0.28	8.8	A	8.8	A	0.27	8.7	A	8.7	A	0.18	8.1	A	8.1	A
			Intersection		10.1	B				10.8	B				12.0	B		
19	Twelfth Avenue at West 34th Street	WB	L	0.40	53.7	D	45.1	D	0.35	38.7	D	37.4	D	0.20	41.5	D	51.4	D
		WB	R	0.47	36.1	D			0.73	36.6	D			0.84	55.0	E		
		NB	T	0.67	26.3	C	25.8	C	0.73	8.4	A	8.3	A	0.79	21.8	C	21.4	C
		NB	R	0.37	21.7	C			0.34	6.8	A			0.19	12.7	B		
		SB	L	0.40	25.0	C	14.0	B	0.85	64.8	E	11.2	B	0.28	29.0	C	16.1	B
		SB	T	0.71	12.3	B			0.56	2.2	A			0.76	14.6	B		
			Intersection		21.7	C				13.8	B				21.7	C		
20	Twelfth Avenue at West 30th Street	EB	LTR	0.05	53.7	D	53.7	D	0.00	37.9	D	37.9	D	0.04	44.0	D	44.0	D
		NB	TR	0.65	18.0	B	18.0	B	0.74	19.1	B	19.1	B	0.77	16.1	B	16.1	B
		SB	L	1.03	82.6	F	16.3	B	0.63	50.8	D	11.9	B	0.77	63.7	E	11.9	B
		SB	TR	0.68	9.5	A			0.58	8.9	A			0.70	8.5	A		
			Intersection		17.2	B				15.8	B				14.2	B		
21	Twelfth Avenue at West 29th Street	WB	LR	0.93	107.6	F	95.2	F	0.23	40.8	D	73.4	E	0.35	43.4	D	51.4	D
		WB	R	0.78	81.8	F			0.92	80.9	F			0.65	56.7	E		
		NB	T	0.57	8.5	A	8.5	A	0.63	10.8	B	10.8	B	0.77	13.6	B	13.6	B
		SB	T	0.77	12.6	B	12.6	B	0.65	11.4	B	11.4	B	0.85	16.7	B	16.7	B
			Intersection		16.1	B				15.1	B				16.4	B		

TABLE V-45: 2006 FUTURE WITH THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)														
				Weekday AM Peak (8:00 - 9:00 AM)					Weekday MD Peak (12:00 - 1:00 PM)					Weekday PM Peak (5:00 - 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
1	Eighth Avenue at West 40th Street	EB	LT	0.99	46.9	D	46.9	D	0.53	18.1	B	18.1	B	-	-	-	19.6	B
			T	-	-	-			-	-	-			0.63	19.6	B		
		NB	TR	1.07	66.6	E	66.6	E	0.87	27.0	C	27.0	C	1.00	41.9	D	41.9	D
			Intersection		59.2	E				24.5	C				35.5	D		
2	Dyer Avenue at West 34th Street	EB	T	0.70	33.3	C	33.3	C	0.85	41.3	D	41.3	D	0.64	31.1	C	31.1	C
		WB	T	0.28	5.10	A	5.0	A	0.34	5.5	A	5.4	A	0.26	4.9	A	4.8	A
		WB	R	0.05	4.0	A			0.20	4.9	A			0.12	4.4	A		
		SB	L	0.85	51.9	D	49.8	D	0.39	34.9	C	38.7	D	0.27	33.2	C	45.7	D
		SB	R	0.38	38.0	D			0.57	45.4	D			0.77	28.5	E		
			Intersection		28.8	C				24.4	C				23.2	C		
3	Tenth Avenue at West 43rd Street	WB	TR	0.63	27.1	C	27.1	C	0.76	32.5	C	32.5	C	0.94	50.1	D	50.1	D
		NB	LT	0.73	15.0	B	15.0	B	0.61	13.2	B	13.2	B	0.71	14.4	B	14.4	B
			Intersection		16.6	B				16.6	B				19.8	B		
4	Tenth Avenue at West 42nd Street	EB	DefL	0.98	124.5	F	55.6	E	-	-	-	128.6	F	-	-	-	29.1	C
		EB	T	0.64	34.5	C			1.20	128.6	F			-	-	-		
		EB	LT	-	-	-			-	-	-			0.54	29.1	C		
		WB	TR	1.04	68.0	E	68.0	E	1.07	81.1	F	81.1	F	0.98	50.6	D	50.6	D
		NB	LTR	0.65	13.8	B	13.8	B	0.77	16.3	B	16.3	B	0.74	15.0	B	15.0	B
			Intersection		34.9	C				47.7	D				25.8	C		
5	Tenth Avenue at West 34th Street	EB	DefL	0.97	78.2	E	47.4	D	1.01	96.0	F	92.0	F	0.88	66.9	E	39.1	D
		EB	T	0.34	23.6	C			1.05	89.8	F			0.30	23.0	C		
		WB	TR	0.52	25.9	C	25.9	C	0.98	59.0	E	59.0	E	0.55	26.3	C	26.3	C
		NB	LT	0.70	11.2	B	11.2	B	0.68	10.9	B	11.1	B	0.58	9.4	A	9.6	A
		NB	R	0.29	11.7	B			0.34	12.4	B			0.29	11.6	B		
			Intersection		19.8	B				34.7	C				16.0	B		
6	Tenth Avenue at West 30th Street	EB	LT	0.57	27.2	C	27.2	C	0.67	29.6	C	29.6	C	0.45	24.9	C	24.9	C
		NB	TR	0.64	10.4	A	10.4	A	0.58	9.7	A	9.7	A	0.70	11.0	B	11.0	B
			Intersection		14.2	B				15.1	B				13.4	B		
7	Eleventh Avenue at West 40th Street	EB	TR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		NB	R	0.14	6.4	A	6.4	A	0.14	6.4	A	6.4	A	0.16	6.5	A	6.5	A
		SB	L	0.28	7.2	A	7.0	A	0.20	6.7	A	7.2	A	0.32	7.5	A	7.3	A
		SB	TR	0.23	6.8	A			0.32	7.4	A			0.30	7.3	A		
			Intersection		6.9	A				7.0	A				7.2	A		
8	Eleventh Avenue at West 39th Street	EB	LR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WB	L	0.47	26.1	C	25.3	C	0.56	28.0	C	26.8	C	0.08	20.2	C	20.2	C
		WB	LR	0.18	21.7	C			0.25	22.7	C			0.08	20.3	C		
		NB	T	0.11	10.0	B	10.0	B	0.09	9.9	A	9.9	A	0.12	10.1	B	10.1	B
		SB	T	0.30	11.4	B	11.4	B	0.42	12.5	B	12.5	B	0.34	11.7	B	11.7	B
			Intersection		13.9	B				15.2	B				11.8	B		

TABLE V-45: 2006 FUTURE WITH THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS (CONTINUED)

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)														
				Weekday AM Peak (8:00 – 9:00 AM)					Weekday MD Peak (12:00 – 1:00 PM)					Weekday PM Peak (5:00 – 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
9	Eleventh Avenue at West 38th Street	NB	TR	0.11	6.2	A	6.2	A	0.09	6.1	A	6.1	A	0.12	6.3	A	6.3	A
		SB	LT	-	-	-	10.5	B	0.77	13.7	B	13.7	B	-	-	-	11.0	B
		SB	DefL	0.64	14.5	B			-	-	-			0.66	15.8	B		
		SB	T	0.48	9.0	A			-	-	-			0.51	9.4	A		
			Intersection		9.7	A				12.6	B				10.0	B		
10	Eleventh Avenue at West 37th Street	EB	LR	0.00	25.7	C	25.7	C	0.00	3.6	C	3.6	C	0.01	25.8	C	25.8	C
		WB	L	0.30	30.3	C	29.1	C	0.34	31.0	C	29.6	C	0.37	31.3	C	29.8	C
		WB	LR	0.24	28.7	C			0.26	29.1	C			0.29	29.3	C		
		WB	R	0.16	27.8	C			0.14	27.4	C			0.18	28.0	C		
		NB	T	0.14	6.4	A	6.4	A	0.14	6.4	A	6.4	A	0.16	6.5	A	6.5	A
		SB	T	0.37	7.9	A	7.9	A	0.51	9.1	A	9.1	A	0.34	7.6	A	7.6	A
			Intersection		10.8	B				11.4	B				11.4	B		
11	Eleventh Avenue at West 36th Street	NB	L	0.17	6.6	A	6.6	A	0.17	6.6	A	6.6	A	0.17	6.6	A	6.6	A
		SB	LTR	0.45	10.8	B	8.2	A	0.55	13.0	B	9.4	A	0.84	30.0	C	13.8	B
		SB	L	0.34	7.6	A			0.46	8.6	A			0.35	7.7	A		
			Intersection		7.9	A				8.9	A				12.2	B		
12	Eleventh Avenue at West 35th Street	WB	L	-	-	-	18.9	B	-	-	-	20.9	C	-	-	-	19.4	B
		WB	LR	0.43	18.9	B			0.53	20.9	C			0.45	19.4	B		
		WB	R	-	-	-			-	-	-			-	-	-		
		NB	T	0.16	15.2	B	15.2	B	0.15	15.1	B	15.1	B	0.18	15.3	B	15.3	B
		SB	T	0.30	16.3	B	16.3	B	0.46	18.0	B	18.0	B	0.30	16.2	B	16.2	B
			Intersection		16.7	B				18.2	B				16.7	B		
13	Eleventh Avenue at West 34th Street	EB	LTR	0.87	37.2	D	37.2	D	-	-	-	35.9	D	-	-	-	38.6	D
		EB	TR	-	-	-			0.51	19.7	B			0.47	22.9	C		
		EB	DefL	-	-	-			0.97	111.5	F			0.90	86.9	F		
		WB	DefL	1.18	165.6	F	60.9	E	-	-	-	89.2	F	-	-	-	35.9	D
		WB	TR	0.71	30.6	C			-	-	-			-	-	-		
		WB	LTR	-	-	-			1.11	89.2	F			0.75	35.9	D		
		SB	LTR	0.31	3.5	A	3.5	A	0.46	6.7	A	6.7	A	0.32	4.4	A	4.4	A
			Intersection		27.2	C				34.0	C				20.3	D		
14	Eleventh Avenue at West 33rd Street	EB	LT	0.33	26.9	C	26.9	C	0.31	26.6	C	26.6	C	0.45	28.4	C	28.4	C
		WB	TR	0.34	8.8	A	8.8	A	0.39	9.3	A	9.3	A	0.25	8.2	A	8.2	A
			Intersection		12.5	B				12.2	B				14.1	B		
15	Eleventh Avenue at West 30th Street	EB	T	0.40	18.1	B	18.1	B	0.37	17.7	B	17.7	B	0.32	17.0	B	17.0	B
		SB	R	0.48	18.3	B	18.3	B	0.56	19.4	B	19.4	B	0.43	17.7	B	17.7	B
			Intersection		18.2	B				19.0	B				17.5	B		
16	Eleventh Avenue at West 29th Street	WB	LT	0.44	18.4	B	18.4	B	0.31	16.8	B	16.8	B	0.31	16.8	B	16.8	B
		SB	TR	0.43	17.7	B	17.7	B	0.44	17.7	B	17.7	B	0.32	16.5	B	16.5	B
			Intersection		17.9	B				17.5	B				16.6	B		

TABLE V-45: 2006 FUTURE WITH THE PROPOSED ACTION - SIGNALIZED INTERSECTION LOS (CONTINUED)

No.	Intersection	Movement		Future Without THE Proposed Action Condition (2006)														
				Weekday AM Peak (8:00 - 9:00 AM)					Weekday MD Peak (12:00 - 1:00 PM)					Weekday PM Peak (5:00 - 6:00 PM)				
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS
17	Eleventh Avenue at West 26th Street	EB	TR	0.68	42.8	D	42.9	D	0.80	49.8	D	49.8	B	0.77	47.2	D	47.2	D
		SB	LT	0.22	6.7	A	6.7	A	0.23	6.7	A	6.7	A	0.15	6.4	A	6.4	A
			Intersection		11.7	B				13.7	B				15.5	B		
18	Eleventh Avenue at West 25th Street	WB	L	0.21	25.3	C	25.3	C	0.34	27.3	C	27.3	C	0.45	29.3	C	29.3	C
		SB	TR	0.47	10.7	B	10.7	B	0.45	10.5	B	10.5	B	0.30	9.0	A	9.0	A
			Intersection		11.9	B				12.5	B				13.0	B		
19	Twelfth Avenue at West 34th Street	WB	L	0.40	53.7	D	45.2	D	0.35	38.7	D	37.5	D	0.20	41.6	D	51.9	D
		WB	R	0.47	36.1	D			0.73	36.6	D			0.85	55.8	E		
		NB	T	0.89	35.6	D	34.2	C	0.97	20.1	C	19.0	B	1.05	57.6	E	55.5	E
		NB	R	0.37	21.8	C			0.34	6.8	A			0.19	12.7	B		
		SB	L	0.36	35.2	D	15.4	B	0.85	64.8	E	11.2	B	0.25	50.1	D	18.2	B
		SB	T	0.71	12.3	B			0.56	2.2	A			0.76	14.6	B		
			Intersection		25.9	C				18.4	B				39.0	D		
20	Twelfth Avenue at West 30th Street	EB	LTR	0.05	53.7	D	53.7	D	0.00	37.9	D	37.9	D	0.04	44.0	D	44.0	D
		NB	TR	0.66	18.1	B	18.1	B	0.74	19.1	B	19.1	B	0.77	16.2	B	16.2	B
		SB	L	1.03	82.6	F	16.3	B	0.63	50.8	D	11.9	B	0.77	63.7	E	12.0	B
		SB	TR	0.68	9.5	A			0.58	8.9	A			0.70	8.5	A		
			Intersection		17.2	B				15.8	B				14.2	B		
21	Twelfth Avenue at West 29th Street	WB	LR	0.75	76.1	E	78.8	E	0.19	39.6	D	73.2	E	0.28	41.3	D	50.5	D
		WB	R	0.78	81.8	F			0.92	80.9	F			0.65	56.7	E		
		NB	T	0.57	8.5	A	8.5	A	0.63	10.8	B	10.8	B	0.77	13.6	B	13.6	B
		SB	T	0.77	12.6	B	12.6	B	0.65	11.4	B	11.4	B	0.85	16.8	B	16.8	B
			Intersection		15.1	B				15.1	B				16.5	B		

TABLE V-46: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (AM PEAK PERIOD)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM) V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM) V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	Significant Impacts?
1	Eighth Avenue at West 40th Street	EB	LT	1.10	83.4	F	83.4	F	0.99	46.9	D	46.9	D	NO
			T	-	-	-			-	-	-			NO
		NB	TR	1.07	66.6	E	66.6	E	1.07	66.6	E	66.6	E	NO
			Intersection		72.9	E				59.2	E			NO
2	Dyer Avenue at West 34th Street	EB	T	0.69	33.2	C	33.2	C	0.70	33.3	C	33.3	C	NO
		WB	T	0.28	0.51	A	5.0	A	0.28	5.10	A	5.0	A	NO
		WB	R	0.05	4.0	A			0.05	4.0	A			NO
		SB	L	0.85	51.5	D	49.7	D	0.85	51.9	D	49.8	D	NO
		SB	R	0.27	35.3	D			0.38	38.0	D			NO
			Intersection		28.4	C				28.8	C			NO
3	Tenth Avenue at West 43rd Street	WB	TR	0.63	27.1	C	27.1	C	0.63	27.1	C	27.1	C	NO
		NB	LT	0.73	15.0	B	15.0	B	0.73	15.0	B	15.0	B	NO
			Intersection		16.6	B				16.6	B			NO
4	Tenth Avenue at West 42nd Street	EB	DefL	0.98	124.5	F	55.6	E	0.98	124.5	F	55.6	E	NO
		EB	T	0.64	34.5	C			0.64	34.5	C			NO
		EB	LT	-	-	-			-	-	-			NO
		WB	TR	1.04	68.0	E	68.0	E	1.04	68.0	E	68.0	E	NO
		NB	LTR	0.67	14.1	B	14.1	B	0.65	13.8	B	13.8	B	NO
			Intersection		35.2	D				34.9	C			NO
5	Tenth Avenue at West 34th Street	EB	DefL	0.94	71.1	E	44.0	D	0.97	78.2	E	47.4	D	NO
		EB	T	0.34	23.6	C			0.34	23.6	C			NO
		WB	TR	0.50	25.5	C	25.5	C	0.52	25.9	C	25.9	C	NO
		NB	LT	0.69	11.1	B	11.1	B	0.70	11.2	B	11.2	B	NO
		NB	R	0.29	11.7	B			0.29	11.7	B			NO
			Intersection		19.0	B				19.8	B			NO
6	Tenth Avenue at West 30th Street	EB	LT	0.62	28.6	C	28.6	C	0.57	27.2	C	27.2	C	NO
		NB	TR	0.64	10.3	B	10.3	B	0.64	10.4	A	10.4	A	NO
			Intersection		14.4	B				14.2	B			NO
7	Eleventh Avenue at West 40th Street	EB	TR	0.61	38.6	D	38.6	D	-	-	-	-	-	N/A
		NB	R	0.16	6.5	A	6.5	A	0.14	6.4	A	6.4	A	NO
		SB	L	0.28	7.2	A	7.0	A	0.28	7.2	A	7.0	A	NO
		SB	TR	0.23	6.8	A			0.23	6.8	A			NO
			Intersection		9.7	A				6.9	A			NO
8	Eleventh Avenue at West 39th Street	EB	LR	0.79	44.0	D	44.0	D	-	-	-	-	-	N/A
		WB	L	0.53	27.7	C	26.7	C	0.47	26.1	C	25.3	C	NO
		WB	LR	0.20	22.2	C			0.18	21.7	C			NO
		NB	T	0.12	10.1	B	10.1	B	0.11	10.0	B	10.0	B	NO
		SB	T	0.30	11.4	B	11.4	B	0.30	11.4	B	11.4	B	NO
			Intersection		18.7	B				13.9	B			NO

TABLE V-46: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (AM PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 – 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 – 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
9	Eleventh Avenue at West 38th Street	NB	TR	0.11	6.2	A	6.2	A	0.11	6.2	A	6.2	A	NO
		SB	LT	-	-	-	9.5	A	-	-	-	10.5	B	NO
		SB	DefL	0.64	14.5	B			0.64	14.5	B			NO
		SB	T	0.33	7.5	A			0.48	9.0	A			NO
			Intersection		8.9	A				9.7	A			NO
10	Eleventh Avenue at West 37th Street	EB	LR	0.00	25.7	C	25.7	C	0.00	25.7	C	25.7	C	NO
		WB	L	0.30	30.3	C	29.1	C	0.30	30.3	C	29.1	C	NO
		WB	LR	0.24	28.7	C			0.24	28.7	C			NO
		WB	R	0.16	27.8	C			0.16	27.8	C			NO
		NB	T	0.14	6.4	A	6.4	A	0.14	6.4	A	6.4	A	NO
		SB	T	0.28	7.1	A	7.1	A	0.37	7.9	A	7.9	A	NO
			Intersection		10.3	B				10.8	B			NO
11	Eleventh Avenue at West 36th Street	NB	L	0.12	6.3	A	6.3	A	0.17	6.6	A	6.6	A	NO
		SB	LTR	0.46	11.0	B	7.7	A	0.45	10.8	B	8.2	A	NO
		SB	L	0.25	6.9	A			0.34	7.6	A			NO
			Intersection		7.4	A				7.9	A			NO
12	Eleventh Avenue at West 35th Street	WB	L	0.16	15.4	B	15.3	B	-	-	-	18.9	B	NO
		WB	LR	0.16	15.4	B			0.43	18.9	B			NO
		WB	R	0.12	15.0	B			-	-	-			NO
		NB	T	0.11	14.7	B	14.7	B	0.16	15.2	B	15.2	B	NO
		SB	T	0.30	16.2	B	16.2	B	0.30	16.3	B	16.3	B	NO
			Intersection		15.8	B				16.7	B			NO
13	Eleventh Avenue at West 34th Street	EB	LTR	0.86	36.6	D	36.6	D	0.87	37.2	D	37.2	D	NO
		EB	TR	-	-	-			-	-	-			NO
		EB	DefL	-	-	-			-	-	-			NO
		WB	DefL	1.02	113.6	F	47.4	D	1.18	165.6	F	60.9	E	YES
		WB	TR	0.71	30.4	C			0.71	30.6	C			NO
		WB	LTR	-	-	-			-	-	-			NO
		SB	LTR	0.31	3.5	A	3.5	A	0.31	3.5	A	3.5	A	NO
			Intersection		23.5	C				27.2	C			NO
14	Eleventh Avenue at West 33rd Street	EB	LT	0.37	27.5	C	27.5	C	0.33	26.9	C	26.9	C	NO
		WB	TR	0.36	9.0	A	9.0	A	0.34	8.8	A	8.8	A	NO
			Intersection		12.8	B				12.5	B			NO
15	Eleventh Avenue at West 30th Street	EB	T	0.43	18.5	B	18.5	B	0.40	18.1	B	18.1	B	NO
		SB	R	0.49	18.4	B	18.4	B	0.48	18.3	B	18.3	B	NO
			Intersection		18.4	B				18.2	B			NO
16	Eleventh Avenue at West 29th Street	WB	LT	0.44	18.4	B	18.4	B	0.44	18.4	B	18.4	B	NO
		SB	TR	0.44	17.8	B	17.8	B	0.43	17.7	B	17.7	B	NO
			Intersection		18.0	B				17.9	B			NO

TABLE V-46: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (AM PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
17	Eleventh Avenue at West 26th Street	EB	TR	0.68	42.9	D	42.9	D	0.68	42.8	D	42.9	D	NO
		SB	LT	0.22	6.7	A	6.7	A	0.22	6.7	A	6.7	A	NO
			Intersection		11.8	B				11.7	B			NO
18	Eleventh Avenue at West 25th Street	WB	L	0.18	24.7	C	24.7	C	0.21	25.3	C	25.3	C	NO
		SB	TR	0.28	8.8	A	8.8	A	0.47	10.7	B	10.7	B	NO
			Intersection		10.1	B				11.9	B			NO
19	Twelfth Avenue at West 34th Street	WB	L	0.40	53.7	D	45.1	D	0.40	53.7	D	45.2	D	NO
		WB	R	0.47	36.1	D			0.47	36.1	D			NO
		NB	T	0.67	26.3	C	25.8	C	0.89	35.6	D	34.2	C	NO
		NB	R	0.37	21.7	C			0.37	21.8	C			NO
		SB	L	0.40	25.0	C	14.0	B	0.36	35.2	D	15.4	B	NO
		SB	T	0.71	12.3	B			0.71	12.3	B			NO
			Intersection		21.7	C				25.9	C			NO
20	Twelfth Avenue at West 30th Street	EB	LTR	0.05	53.7	D	53.7	D	0.05	53.7	D	53.7	D	NO
		NB	TR	0.65	18.0	B	18.0	B	0.66	18.1	B	18.1	B	NO
		SB	L	1.03	82.6	F	16.3	B	1.03	82.6	F	16.3	B	NO
		SB	TR	0.68	9.5	A			0.68	9.5	A			NO
			Intersection		17.2	B				17.2	B			NO
21	Twelfth Avenue at West 29th Street	WB	LR	0.93	107.6	F	95.2	F	0.75	76.1	E	78.8	E	NO
		WB	R	0.78	81.8	F			0.78	81.8	F			NO
		NB	T	0.57	8.5	A	8.5	A	0.57	8.5	A	8.5	A	NO
		SB	T	0.77	12.6	B	12.6	B	0.77	12.6	B	12.6	B	NO
			Intersection		16.1	B				15.1	B			NO

TABLE V-47: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (MIDDAY PEAK PERIOD)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM) V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM) V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	Significant Impacts?
1	Eighth Avenue at West 40th Street	EB	LT	0.59	19.4	B	19.4	B	0.53	18.1	B	18.1	B	NO
			T	-	-	-			-	-	-			NO
		NB	TR	0.87	27.0	C	27.0	C	0.87	27.0	C	27.0	C	NO
			Intersection		24.8	C				24.5	C			NO
2	Dyer Avenue at West 34th Street	EB	T	0.84	41.0	D	41.0	D	0.85	41.3	D	41.3	D	NO
		WB	T	0.34	5.5	A	5.4	A	0.34	5.5	A	5.4	A	NO
		WB	R	0.20	4.9	A			0.20	4.9	A			NO
		SB	L	0.38	34.8	C	36.7	D	0.39	34.9	C	38.7	D	NO
		SB	R	0.47	40.7	D			0.57	45.4	D			NO
			Intersection		23.7	C				24.4	C			NO
3	Tenth Avenue at West 43rd Street	WB	TR	0.76	32.5	C	32.5	C	0.76	32.5	C	32.5	C	NO
		NB	LT	0.61	13.2	B	13.2	B	0.61	13.2	B	13.2	B	NO
			Intersection		16.6	B				16.6	B			NO
4	Tenth Avenue at West 42nd Street	EB	DefL	-	-	-	128.6	F	-	-	-	128.6	F	NO
		EB	T	1.20	128.6	F			1.20	128.6	F			NO
		EB	LT	-	-	-			-	-	-			NO
		WB	TR	1.07	81.1	F	81.1	F	1.07	81.1	F	81.1	F	NO
		NB	LTR	0.79	16.9	B	16.9	B	0.77	16.3	B	16.3	B	NO
			Intersection		48.2	D				47.7	D			NO
5	Tenth Avenue at West 34th Street	EB	DefL	0.97	84.9	F	86.1	F	1.01	96.0	F	92.0	F	YES
		EB	T	1.04	86.7	F			1.05	89.8	F			NO
		WB	TR	0.95	52.4	D	52.4	D	0.98	59.0	E	59.0	E	YES
		NB	LT	0.68	10.9	B	11.0	B	0.68	10.9	B	11.1	B	NO
		NB	R	0.34	12.4	B			0.34	12.4	B			NO
			Intersection		32.1	C				34.7	C			NO
6	Tenth Avenue at West 30th Street	EB	LT	0.75	32.6	C	32.6	C	0.67	29.6	C	29.6	C	NO
		NB	TR	0.58	9.6	A	9.6	A	0.58	9.7	A	9.7	A	NO
			Intersection		15.9	B				15.1	B			NO
7	Eleventh Avenue at West 40th Street	EB	TR	0.52	35.3	D	35.3	D	-	-	-	-	-	N/A
		NB	R	0.16	6.5	A	6.5	A	0.14	6.4	A	6.4	A	NO
		SB	L	0.20	6.7	A	7.1	A	0.20	6.7	A	7.2	A	NO
		SB	TR	0.31	7.3	A			0.32	7.4	A			NO
			Intersection		9.0	A				7.0	A			NO
8	Eleventh Avenue at West 39th Street	EB	LR	0.67	35.9	D	35.9	D	-	-	-	-	-	N/A
		WB	L	0.63	30.3	C	28.7	C	0.56	28.0	C	26.8	C	NO
		WB	LR	0.28	23.4	C			0.25	22.7	C			NO
		NB	T	0.10	10.0	A	10.0	A	0.09	9.9	A	9.9	A	NO
		SB	T	0.42	12.5	B	12.5	B	0.42	12.5	B	12.5	B	NO
			Intersection		17.7	B				15.2	B			NO

TABLE V-47: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (MIDDAY PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 – 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 – 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
9	Eleventh Avenue at West 38th Street	NB	TR	0.09	6.1	A	6.1	A	0.09	6.1	A	6.1	A	NO
		SB	LT	-	-	-	9.9	A	0.77	13.7	B	13.7	B	NO
		SB	DefL	0.63	14.1	B			-	-	-			NO
		SB	T	0.47	8.6	A			-	-	-			NO
			Intersection		9.3	A				12.6	B			NO
10	Eleventh Avenue at West 37th Street	EB	LR	0.00	25.7	C	25.7	C	0.00	3.6	C	3.6	C	NO
		WB	L	0.34	31.0	C	29.6	C	0.34	31.0	C	29.6	C	NO
		WB	LR	0.26	29.1	C			0.26	29.1	C			NO
		WB	R	0.14	27.4	C			0.14	27.4	C			NO
		NB	T	0.14	6.4	A	6.4	A	0.14	6.4	A	6.4	A	NO
		SB	T	0.38	7.8	A	7.8	A	0.51	9.1	A	9.1	A	NO
			Intersection		10.5	B				11.4	B			NO
11	Eleventh Avenue at West 36th Street	NB	L	0.12	6.2	A	6.2	A	0.17	6.6	A	6.6	A	NO
		SB	LTR	0.55	13.3	B	8.5	A	0.55	13.0	B	9.4	A	NO
		SB	L	0.34	7.6	A			0.46	8.6	A			NO
			Intersection		8.1	A				8.9	A			NO
12	Eleventh Avenue at West 35th Street	WB	L	0.21	15.9	B	15.8	B	-	-	-	20.9	C	NO
		WB	LR	0.21	15.9	B			0.53	20.9	C			NO
		WB	R	0.13	15.1	B			-	-	-			NO
		NB	T	0.10	14.7	B	14.7	B	0.15	15.1	B	15.1	B	NO
		SB	T	0.46	18.0	B	18.0	B	0.46	18.0	B	18.0	B	NO
			Intersection		17.1	B				18.2	B			NO
13	Eleventh Avenue at West 34th Street	EB	LTR	0.92	96.1	F	33.2	C	-	-	-	35.9	D	NO
		EB	TR	0.50	19.6	B			0.51	19.7	B			NO
		EB	DefL	-	-	-			0.97	111.5	F			NO
		WB	DefL	-	-	-	68.6	E	-	-	-	89.2	F	YES
		WB	TR	1.06	68.6	E			-	-	-			NO
		WB	LTR	-	-	-			1.11	89.2	F			NO
		SB	LTR	0.46	6.7	A	6.7	A	0.46	6.7	A	6.7	A	NO
			Intersection		27.8	C				34.0	C			NO
14	Eleventh Avenue at West 33rd Street	EB	LT	0.35	27.1	C	27.1	C	0.31	26.6	C	26.6	C	NO
		WB	TR	0.42	9.5	A	9.5	A	0.39	9.3	A	9.3	A	NO
			Intersection		12.5	B				12.2	B			NO
15	Eleventh Avenue at West 30th Street	EB	T	0.39	18.0	B	18.0	B	0.37	17.7	B	17.7	B	NO
		SB	R	0.57	19.5	B	19.5	B	0.56	19.4	B	19.4	B	NO
			Intersection		19.2	B				19.0	B			NO
16	Eleventh Avenue at West 29th Street	WB	LT	0.31	16.8	B	16.8	B	0.31	16.8	B	16.8	B	NO
		SB	TR	0.45	17.9	B	17.9	B	0.44	17.7	B	17.7	B	NO
			Intersection		17.6	B				17.5	B			NO

TABLE V-47: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (MIDDAY PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
17	Eleventh Avenue at West 26th Street	EB	TR	0.80	49.8	D	49.8	D	0.80	49.8	D	49.8	B	NO
		SB	LT	0.22	6.7	A	6.7	A	0.23	6.7	A	6.7	A	NO
			Intersection		13.8	B				13.7	B			NO
18	Eleventh Avenue at West 25th Street	WB	L	0.29	26.2	C	26.2	C	0.34	27.3	C	27.3	C	NO
		SB	TR	0.27	8.7	A	8.7	A	0.45	10.5	B	10.5	B	NO
			Intersection		10.8	B				12.5	B			NO
19	Twelfth Avenue at West 34th Street	WB	L	0.35	38.7	D	37.4	D	0.35	38.7	D	37.5	D	NO
		WB	R	0.73	36.6	D			0.73	36.6	D			NO
		NB	T	0.73	8.4	A	8.3	A	0.97	20.1	C	19.0	B	NO
		NB	R	0.34	6.8	A			0.34	6.8	A			NO
		SB	L	0.85	64.8	E	11.2	B	0.85	64.8	E	11.2	B	NO
		SB	T	0.56	2.2	A			0.56	2.2	A			NO
			Intersection		13.8	B				18.4	B			NO
20	Twelfth Avenue at West 30th Street	EB	LTR	0.00	37.9	D	37.9	D	0.00	37.9	D	37.9	D	NO
		NB	TR	0.74	19.1	B	19.1	B	0.74	19.1	B	19.1	B	NO
		SB	L	0.63	50.8	D	11.9	B	0.63	50.8	D	11.9	B	NO
		SB	TR	0.58	8.9	A			0.58	8.9	A			NO
			Intersection		15.8	B				15.8	B			NO
21	Twelfth Avenue at West 29th Street	WB	LR	0.23	40.8	D	73.4	E	0.19	39.6	D	73.2	E	NO
		WB	R	0.92	80.9	F			0.92	80.9	F			NO
		NB	T	0.63	10.8	B	10.8	B	0.63	10.8	B	10.8	B	NO
		SB	T	0.65	11.4	B	11.4	B	0.65	11.4	B	11.4	B	NO
			Intersection		15.1	B				15.1	B			NO

TABLE V-48: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (PM PEAK PERIOD)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
1	Eighth Avenue at West 40th Street	EB	LT	-	-	-	21.5	C	-	-	-	19.6	B	NO
			T	0.70	21.5	C			0.63	19.6	B			NO
		NB	TR	1.00	41.9	D	41.9	D	1.00	41.9	D	41.9	D	NO
			Intersection		36.0	D				35.5	D			NO
2	Dyer Avenue at West 34th Street	EB	T	0.63	30.8	C	30.8	C	0.64	31.1	C	31.1	C	NO
		WB	T	0.26	4.9	A	4.8	A	0.26	4.9	A	4.8	A	NO
		WB	R	0.12	4.4	A			0.12	4.4	A			NO
		SB	L	0.27	33.1	C	40.9	D	0.27	33.2	C	45.7	D	NO
		SB	R	0.66	49.0	D			0.77	28.5	E			NO
			Intersection		21.6	C				23.2	C			NO
3	Tenth Avenue at West 43rd Street	WB	TR	0.94	50.1	D	50.1	D	0.94	50.1	D	50.1	D	NO
		NB	LT	0.71	14.3	B	14.3	B	0.71	14.4	B	14.4	B	NO
			Intersection		19.8	B				19.8	B			NO
4	Tenth Avenue at West 42nd Street	EB	DefL	-	-	-	29.1	C	-	-	-	29.1	C	NO
		EB	T	0.54	29.1	C			-	-	-			NO
		EB	LT	-	-	-			0.54	29.1	C			NO
		WB	TR	0.98	50.6	D	50.6	D	0.98	50.6	D	50.6	D	NO
		NB	LTR	0.76	15.4	B	15.4	B	0.74	15.0	B	15.0	B	NO
			Intersection		26.2	C				25.8	C			NO
5	Tenth Avenue at West 34th Street	EB	DefL	0.83	59.6	E	36.1	D	0.88	66.9	E	39.1	D	NO
		EB	T	0.29	22.9	C			0.30	23.0	C			NO
		WB	TR	0.53	26.0	C	26.0	C	0.55	26.3	C	26.3	C	NO
		NB	LT	0.58	9.3	A	9.5	A	0.58	9.4	A	9.6	A	NO
		NB	R	0.29	11.6	B			0.29	11.6	B			NO
			Intersection		15.4	B				16.0	B			NO
6	Tenth Avenue at West 30th Street	EB	LT	0.50	25.9	C	25.9	C	0.45	24.9	C	24.9	C	NO
		NB	TR	0.70	11.0	B	11.0	B	0.70	11.0	B	11.0	B	NO
			Intersection		13.5	B				13.4	B			NO
7	Eleventh Avenue at West 40th Street	EB	TR	0.39	32,0	C	32.0	C	-	-	-	-	-	N/A
		NB	R	0.16	6.5	A	6.5	A	0.16	6.5	A	6.5	A	NO
		SB	L	0.32	7.5	A	7.3	A	0.32	7.5	A	7.3	A	NO
		SB	TR	0.29	7.2	A			0.30	7.3	A			NO
			Intersection		8.3	A				7.2	A			NO
8	Eleventh Avenue at West 39th Street	EB	LR	0.73	38.1	D	38.1	D	-	-	-	-	-	N/A
		WB	L	0.08	20.2	C	20.2	C	0.08	20.2	C	20.2	C	NO
		WB	LR	0.08	20.3	C			0.08	20.3	C			NO
		NB	T	0.12	10.1	B	10.1	B	0.12	10.1	B	10.1	B	NO
		SB	T	0.34	11.7	B	11.7	B	0.34	11.7	B	11.7	B	NO
			Intersection		15.5	B				11.8	B			NO

TABLE V-48: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (PM PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 – 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 – 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
9	Eleventh Avenue at West 38th Street	NB	TR	0.12	6.3	A	6.3	A	0.12	6.3	A	6.3	A	NO
		SB	LT	-	-	-	9.8	A	-	-	-	11.0	B	NO
		SB	DefL	0.66	15.8	B			0.66	15.8	B			NO
		SB	T	0.35	7.7	A			0.51	9.4	A			NO
			Intersection		9.0	A				10.0	B			NO
10	Eleventh Avenue at West 37th Street	EB	LR	0.01	25.8	C	25.8	C	0.01	25.8	C	25.8	C	NO
		WB	L	0.37	31.3	C	29.8	C	0.37	31.3	C	29.8	C	NO
		WB	LR	0.29	29.3	C			0.29	29.3	C			NO
		WB	R	0.18	28.0	C			0.18	28.0	C			NO
		NB	T	0.16	6.5	A	6.5	A	0.16	6.5	A	6.5	A	NO
		SB	T	0.25	7.0	A	7.0	A	0.34	7.6	A	7.6	A	NO
			Intersection		11.1	B				11.4	B			NO
11	Eleventh Avenue at West 36th Street	NB	L	0.12	6.2	A	6.2	A	0.17	6.6	A	6.6	A	NO
		SB	LTR	0.85	31.8	C	13.8	B	0.84	30.0	C	13.8	B	NO
		SB	L	0.26	7.0	A			0.35	7.7	A			NO
			Intersection		21.1	B				12.2	B			NO
12	Eleventh Avenue at West 35th Street	WB	L	0.17	15.5	B	15.4	B	-	-	-	19.4	B	NO
		WB	LR	0.17	15.5	B			0.45	19.4	B			NO
		WB	R	0.12	15.0	B			-	-	-			NO
		NB	T	0.12	14.8	B	14.8	B	0.18	15.3	B	15.3	B	NO
		SB	T	0.30	16.2	B	16.2	B	0.30	16.2	B	16.2	B	NO
			Intersection		15.8	B				16.7	B			NO
13	Eleventh Avenue at West 34th Street	EB	LTR	0.87	77.8	E	36.7	D	-	-	-	38.6	D	NO
		EB	TR	0.45	22.6	C			0.47	22.9	C			NO
		EB	DefL	-	-	-			0.90	86.9	F			NO
		WB	DefL	-	-	-	34.5	C	-	-	-	35.9	D	NO
		WB	TR	0.71	34.5	C			-	-	-			NO
		WB	LTR	-	-	-			0.75	35.9	D			NO
		SB	LTR	0.31	4.4	A	4.4	A	0.32	4.4	A	4.4	A	NO
			Intersection		19.2	B				20.3	D			NO
14	Eleventh Avenue at West 33rd Street	EB	LT	0.50	29.3	C	29.3	C	0.45	28.4	C	28.4	C	NO
		WB	TR	0.27	8.3	A	8.3	A	0.25	8.2	A	8.2	A	NO
			Intersection		14.5	B				14.1	B			NO
15	Eleventh Avenue at West 30th Street	EB	T	0.34	17.3	B	17.3	B	0.32	17.0	B	17.0	B	NO
		SB	R	0.43	17.7	B	17.7	B	0.43	17.7	B	17.7	B	NO
			Intersection		17.6	B				17.5	B			NO
16	Eleventh Avenue at West 29th Street	WB	LT	0.31	16.8	B	16.8	B	0.31	16.8	B	16.8	B	NO
		SB	TR	0.33	16.5	B	16.5	B	0.32	16.5	B	16.5	B	NO
			Intersection		16.6	B				16.6	B			NO

TABLE V-48: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (PM PEAK PERIOD) (CONTINUED)

No.	Intersection	Movement		2006 Future Without the Proposed Action Weekday (8:00 - 9:00 AM)					2006 Future With the Proposed Action Weekday (8:00 - 9:00 AM)					Significant Impacts?
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
17	Eleventh Avenue at West 26th Street	EB	TR	0.77	47.2	D	47.2	D	0.77	47.2	D	47.2	D	NO
		SB	LT	0.15	6.3	A	6.3	A	0.15	6.4	A	6.4	A	NO
			Intersection		15.6	B				15.5	B			NO
18	Eleventh Avenue at West 25th Street	WB	L	0.39	27.6	C	27.6	C	0.45	29.3	C	29.3	C	NO
		SB	TR	0.18	8.1	A	8.1	A	0.30	9.0	A	9.0	A	NO
			Intersection		12.0	B				13.0	B			NO
19	Twelfth Avenue at West 34th Street	WB	L	0.20	41.5	D	51.4	D	0.20	41.6	D	51.9	D	NO
		WB	R	0.84	55.0	E			0.85	55.8	E			NO
		NB	T	0.79	21.8	C	21.4	C	1.05	57.6	E	55.5	E	YES
		NB	R	0.19	12.7	B			0.19	12.7	B			NO
		SB	L	0.28	29.0	C	16.1	B	0.25	50.1	D	18.2	B	NO
		SB	T	0.76	14.6	B			0.76	14.6	B			NO
			Intersection		21.7	C				39.0	D			NO
20	Twelfth Avenue at West 30th Street	EB	LTR	0.04	44.0	D	44.0	D	0.04	44.0	D	44.0	D	NO
		NB	TR	0.77	16.1	B	16.1	B	0.77	16.2	B	16.2	B	NO
		SB	L	0.77	63.7	E	11.9	B	0.77	63.7	E	12.0	B	NO
		SB	TR	0.70	8.5	A			0.70	8.5	A			NO
			Intersection		14.2	B				14.2	B			NO
21	Twelfth Avenue at West 29th Street	WB	LR	0.35	43.4	D	51.4	D	0.28	41.3	D	50.5	D	NO
		WB	R	0.65	56.7	E			0.65	56.7	E			NO
		NB	T	0.77	13.6	B	13.6	B	0.77	13.6	B	13.6	B	NO
		SB	T	0.85	16.7	B	16.7	B	0.85	16.8	B	16.8	B	NO
			Intersection		16.4	B				16.5	B			NO

TABLE V-49: 2006 FUTURE WITHOUT THE PROPOSED ACTION VS. 2006 FUTURE WITH THE PROPOSED ACTION (MITIGATED INTERSECTIONS)

No.	Intersection	Movement		2006 Future Without the Proposed Action					2006 Future With the Proposed Action					Significant Impacts?
				Weekday (8:00 - 9:00 AM)					Weekday (8:00 - 9:00 AM)					
				V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	V/C Ratio	Delay (sec/veh)	LOS	Approach Delay (sec/veh)	Approach LOS	
AM Period				**Weekday (8:00 - 9:00 AM)**					**Weekday (8:00 - 9:00 AM)**					
13	Eleventh Avenue at West 34th Street	EB	LTR	0.86	36.6	D	36.6	D	0.79	30.1	C	30.1	C	NO
		EB	TR	-	-	-			-	-	-			NO
		EB	DefL	-	-	-			-	-	-			NO
		WB	DefL	1.02	113.6	F	47.4	D	1.02	105.8	C	44.4	D	NO
		WB	TR	0.71	30.4	C			0.65	26.6	D			NO
		WB	LTR	-	-	-			-	-	-			NO
		SB	LTR	0.31	3.5	A	3.5	A	0.32	4.4	A	4.4	A	NO
			Intersection		23.5	C				21.5	C			NO
Midday Period				**Weekday (12:00 - 1:00 MD)**					**Weekday (12:00 - 1:00 MD)**					
5	Tenth Avenue at West 34th Street	EB	DefL	0.97	84.9	F	86.1	F	1.01	96.0	F	62.4	E	NO
		EB	T	1.04	86.7	F			0.84	44.2	D			NO
		WB	TR	0.95	52.4	D	52.4	D	0.89	41.7	D	41.7	D	NO
		NB	LT	0.68	10.9	B	11.0	B	0.68	10.9	B	11.1	B	NO
		NB	R	0.34	12.4	B			0.34	12.4	B			NO
			Intersection		32.1	C				26.1	C			NO
13	Eleventh Avenue at West 34th Street	EB	LTR	0.92	96.1	F	33.2	C	-	-	-	25.0	C	NO
		EB	TR	0.50	19.6	B			0.48	17.5	B			NO
		EB	DefL	-	-	-			0.81	69.0	E			NO
		WB	DefL	-	-	-	68.6	E	-	-	-	59.1	E	NO
		WB	TR	1.06	68.6	E			-	-	-			NO
		WB	LTR	-	-	-			1.03	59.1	E			NO
		SB	LTR	0.46	6.7	A	6.7	A	0.48	8.0	A	8.0	A	NO
			Intersection		27.8	C				34.0	C			NO
PM Period				**Weekday (5:00 - 6:00 PM)**					**Weekday (5:00 - 6:00 PM)**					
19	Twelfth Avenue at West 34th Street	WB	L	0.20	41.5	D	51.4	D	0.49	52.2	D	43.5	D	NO
		WB	R	0.84	55.0	E			0.48	40.2	D			NO
		NB	T	0.79	21.8	C	21.4	C	0.99	36.0	D	34.8	C	NO
		NB	R	0.19	12.7	B			0.18	10.5	B			NO
		SB	L	0.28	29.0	C	16.1	B	0.24	47.1	D	14.9	B	NO
		SB	T	0.76	14.6	B			0.72	11.2	B			NO
			Intersection		21.7	C				26.9	C			NO

TABLE V-50: Summary of Noise Analysis per Construction Site

Nearest Residential Receptor	Construction Site	Dist(ft) to Receptor	1-Hour Leq FTA Criteria	1-Hour Leq Min/Max Project Level	8-Hour Leq FTA Criteria	8-Hour Leq Min/Max Project Level	30-day Average Ldn FTA Criteria	30-day Average Ldn Min/Max Project Level
North of 42nd St btw 9th & 10th Ave.	Intermediate Station	200	90/80	92 - 98	90/70	90 - 96	80	85 - 91
On 31st St btw 9th & 10th Ave	Project Development Site #33	300	90/80	86 - 90	90/70	85 - 90	89	80 - 85
Area east of 10th Ave	Launch Site A	750	90/80	79 - 85	90/70	77 - 84	88	73 - 79
Bulding on 40th St East of site	Site N	75	90/80	96 - 102	90/70	94 - 100	88	90 - 96
None within 1000 Feet	Multi-Use Facility	1000	90/80	80 - 86	90/70	78 - 85	NA	73 - 80
None within 1000 Feet	Corona Yard	1000	90/80	65 - 77	90/70	64 - 75	NA	75 - 70
None within 1000 Feet	Block 675-DSNY & Tow Pound	1000	90/80	65 - 77	90/70	64 - 76	NA	61 - 72
Southwest corner of Dyer & 41st	Project Development Site #33	150	90/80	90 - 96	90/70	88 - 94	83	84 - 89
	10th Ave. Station	275	90/80	89 - 96	90/70	87 - 93	86	82 - 88
	Overlapped constructions		90/80	93 - 99	90/70	91 - 96	86	86 - 92
Between 41st & 42nd St East of Route 9A	Convention Center Expansion	450	90/80	83 - 93	90/70	82 - 92	80	77 - 87
	Convention Center Hotel	300	90/80	87 - 95	90/70	85 - 93	80	81 - 88
	Overlapped constructions		90/80	89 - 97	90/70	87 - 95	80	82 - 91
On 35th St. East of 11th Ave.	Terminal Station	200	90/80	91 - 99	90/70	89 - 97	87	84 - 93
	East Caemmerer Yard	800	90/80	81 - 87	90/70	80 - 85	87	75 - 80
	Midblock Park and Boulevard	250	90/80	88 - 93	90/70	86 - 92	87	81 - 87
	Overlapped constructions		90/80	93 - 100	90/70	91 - 99	87	86 - 94

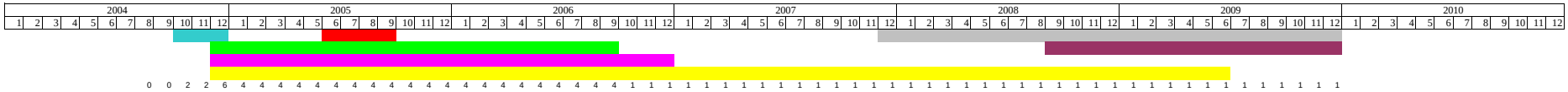
TABLE V-51: Summary of I-hour LEQ, 8-hour LEQ, and Ldn per Construction Site

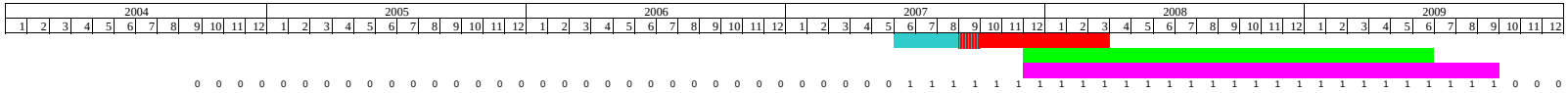
	Block - Lot	Peak Period		Leq (50')	Dist to Receptor (ft)	Leq(hr)	Leq(8-hr)	Ldn
Area A	697-1, 60	12 2004	Max	109	750	85	84	79
		12 2007 - 8 2008	Min	103	750	79	77	73
Area N	763-47	12 2007 - 3 2008	Max	106	75	102	100	96
		7-9 2009	Min	100	75	96	94	90
10th Ave Sta.	1051-01	6 2005	Max	110	200	98	96	91
		1-11 2007	Min	104	200	92	90	85
34th St Sta.	705-1,5,8 & 706-1	6 2006	Max	111	200	99	97	93
		1 - 9 2009	Min	103	200	91	89	84
MUF	676, 679	11 2005 - 6 2006	Max	112	1000	86	85	80
		9 2006 - 6 2009	Min	106	1000	80	78	73
CC	685	12 2004	Max	112	450	93	92	87
		4-12 2010	Min	102	450	83	82	77
CC Hotel	1089-03	2 2008	Max	110	300	95	93	88
		9-12 2008	Min	103	300	87	85	81
Plenary	707-01	2 2008	Max	108	250	94	93	88
		5-12 2008	Min	98	250	84	84	79
Mid-Block	705-53, 54	4 2009	Max	107	250	93	92	87
		5-12 2009	Min	102	250	88	86	81
Corona Yard	Corona Yard	12 2005 - 4 2006	Max	103	1000	77	75	70
		7 2006 - 9 2008	Min	91	1000	65	64	61
East Caemmerer Yard	702, 704	1 2005 - 6 2005	Max	111	800	87	85	80
		9 2006 - 6 2009	Min	106	800	81	80	75
Block 675	675	10 2005	Max	103	1000	77	76	72
		7-12 2006	Min	91	1000	65	64	61
Brookfield	729-50	5 2006	Max	106	300	90	90	85
		8-11 2007	Min	102	300	86	85	80
41st St. and 10th Ave.	1050-1,6,61,158	5 2006	Max	105	150	96	94	89
		7-11 2007	Min	100	150	90	88	84
10th Ave Sta.	1051-01	6 2005	Max	110	275	95	93	88
		1-11 2007	Min	104	275	89	87	82

TABLE V-52: Noise Monitoring Summary per Receptor Site

	AM				Mid				PM				Night				WeekEnd							Ldn
Receptor	Leq	L10	L90		Leq	L10	L90		Leq	L10	L90		Leq	L10	L90		Leq	L10	L90		Max Leq	7am-7pm	7pm-10pm	
N1	79	82	69		77	81	68		76	80	68		75	79	65		80	82	71		79	77	78	78
N2	77	82	67		77	81	69		77	81	67		75	78	68		78	82	66		77	75	78	78
N3	72	76	63		69	71	62		68	76	62		66	69	61		65	68	60		72	70	69	70
N4	74	78	65		76	78	66		72	77	65		76	80	65		72	75	65		76	74	79	79
N5	72	76	61		72	75	63		73	79	64		74	76	62		67	70	60		73	71	77	77
N6	74	78	66		74	77	66		75	78	66		73	77	65		72	74	64		75	73	76	76
N7	76	80	70		74	77	67		72	77	67		74	75	63		72	75	60		76	74	77	77
N8	74	78	67		73	76	68		74	78	67		70	73	64		71	74	63		74	72	73	73
N9	75	78	69		74	77	69		75	78	67		73	77	65		72	75	64		75	73	76	76
N10	76	79	70		75	77	69		76	77	67		73	76	65		71	73	67		76	74	76	76
N11	76	80	71		74	77	69		74	77	67		72	75	64		72	76	66		76	74	75	75
N12	75	78	69		74	76	67		74	77	67		72	75	64		73	76	66		75	73	75	75
N13	72	76	67		71	73	67		73	76	66		68	71	63		70	74	64		73	71	71	71
N14	72	75	67		73	76	68		74	75	67		70	73	64		70	73	64		74	72	73	73
N15	69	72	64		68	70	63		68	70	64		69	72	64		65	67	59		69	67	72	72

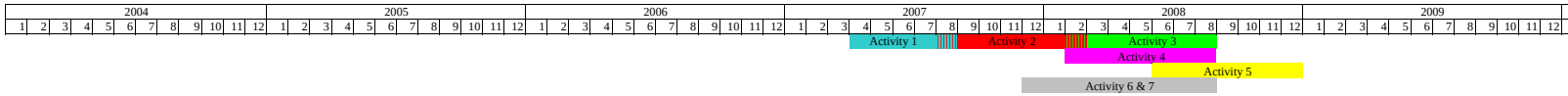
TABLE V-53: Construction Schedule Assumptions for Noise Analysis


2004
2005
2006
2007
2008
2009
2010
0 0 2 2 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 1 1 1



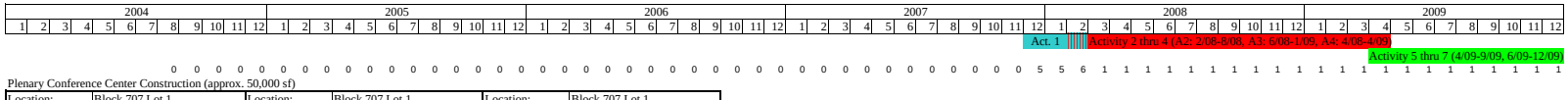
40th Street between 8th & 9th Ave (Approx. 5,000 sf)

| | | |



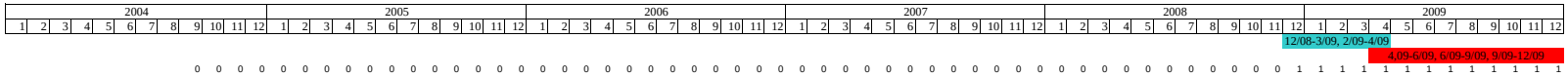
Convention Center Hotel Construction (Approx. 50,000 sf)

Location:	Block 1089 Lot 3		Location:	Block 1089 Lot 3		Location:	Block 1089 Lot 3		Location:	Block 1089 Lot 3		Location:	Block 1089 Lot 3		Location:	Block 1089 Lot 3	
Color:	Activity 1		Color:	Activity 2		Color:	Activity 3		Color:	Activity 4		Color:	Activity 5		Color:	Activity 6, 7, 8, 9	
Block:	11th & 12ave & 41/42nd St		Block:	11th & 12ave & 41/42nd St		Block:	11th & 12ave & 41/42nd St		Block:	11th & 12ave & 41/42nd St		Block:	11th & 12ave & 41/42nd St		Block:	11th & 12ave & 41/42nd St	
Phase:	Excavation (Soil & Asphalt)		Phase:	Building Demolition		Phase:	Drill & Blast (Rock Spoils)		Phase:	Tunnel & Concrete		Phase:	Gen. subway construction		Phase:	Gen. subway construction	
Equipment:	Crane	1	Equipment:	Crane	0	Equipment:	Crane	1	Equipment:	Crane	1	Equipment:	Crane	1	Equipment:	Crane	1
	Scraper	1		Scraper	0		Scraper	0		Scraper	0		Scraper	0		Scraper	0
	Cassion Drill	2		Cassion Drill	0		Cassion Drill	0	**	Shotcrete Pump	1		Cassion Drill	0		Cassion Drill	0
	Excavator	1		Excavator	4		Excavator	0		Excavator	0		Excavator	0		Excavator	0
	Cherry Picker	4		Cherry Picker	4		Cherry Picker	2		Cherry Picker	2		Cherry Picker	0		Cherry Picker	4
	Front Loader	2		Front Loader	4		Front Loader	2		Front Loader	0		Front Loader	2		Front Loader	1
	Backhoe	2		Backhoe	4		Backhoe	6		Backhoe	4		Backhoe	4		Backhoe	4
	Compactor	1		Compactor	0		Compactor	0		Compactor	0		Compactor	0		Compactor	0
	Compressor	6		Compressor	12		Compressor	8		Compressor	6		Compressor	0		Compressor	6
Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th	



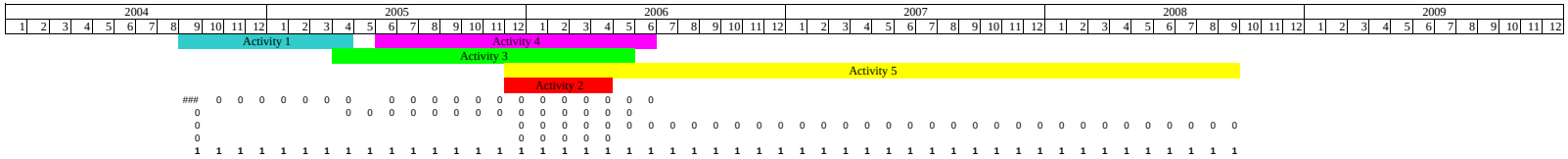
Plenary Conference Center Construction (approx. 50,000 sf)

Location:	Block 707 Lot 1		Location:	Block 707 Lot 1		Location:	Block 707 Lot 1	
Color:	Activity 1		Color:	Activity 2 to 4		Color:	Activity 5	
Block:	35th St btw. 10th & 11th Ave		Block:	35th St btw. 10th & 11th Ave		Block:	35th St btw. 10th & 11th Ave	
Phase:	Excavation & Trenching		Phase:	Civil/Structural Construction		Phase:	Construction Finishing	
Equipment:	Crane	0	Equipment:	Crane	1	Equipment:	Crane	1
	Scraper	1		Scraper	0		Scraper	0
**	Dozer	2		Cassion Drill	0		Cassion Drill	0
	Excavator	2		Excavator	0		Excavator	0
	Cherry Picker	3		Cherry Picker	3		Cherry Picker	3
	Front Loader	2		Front Loader	2		Front Loader	0
	Backhoe	4		Backhoe	4		Backhoe	0
	Compactor	1		Compactor	0		Compactor	0
	Compressor	4		Compressor	6		Compressor	6
Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th	



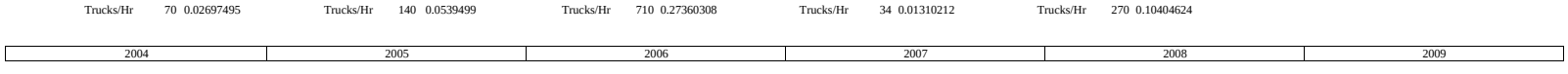
Midblock open space and Boulevard construction

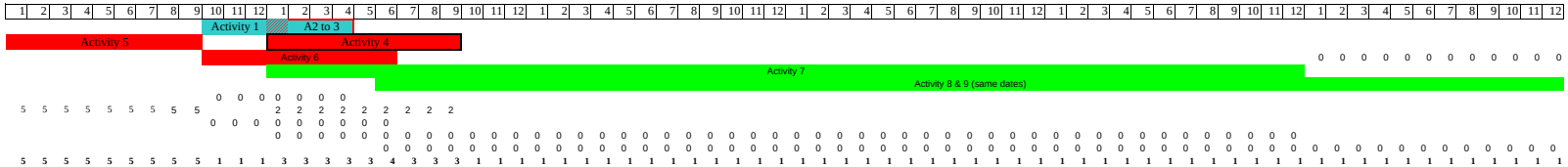
Location:	Block 705 Lots 54 & 53		Location:	Block 705 Lots 54 & 53	
Color:	Activity 1 through 2		Color:	Activity 3 through 5	
Block:	34th St btw. 10th & 11th Av.		Block:	34th St btw. 10th & 11th Av.	
Phase:	Excavation & Trenching		Phase:	Grading	
Equipment:	Crane	0	Equipment:	Crane	0
	Scraper	1		Scraper	0
	Cassion Drill	0		Cassion Drill	0
	Excavator	2		Excavator	0
	Cherry Picker	2		Cherry Picker	1
	Front Loader	2		Front Loader	2
	Backhoe	4		Backhoe	2
	Compactor	1		Compactor	1
	Compressor	4		Compressor	0
Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th	



Carona Yard

Location:			Location:			Location:			Location:			Location:			Location:		
Color:	Activity 1		Color:	Activity 2		Color:	Activity 3		Color:	Activity 4		Color:	Activity 5		Color:		
Block:			Block:			Block:			Block:			Block:			Block:		
Phase:	Excavation (Soil & Asphalt)		Phase:	Building Demolition		Phase:	Drill & Blast (Rock Spoils)		Phase:	Tunnel & Concrete		Phase:	Gen. subway construction		Phase:		
Equipment:	Crane	0	Equipment:	Crane	0	Equipment:	Crane	1	Equipment:	Crane	0	Equipment:	Crane	0	Equipment:	Crane	0
	Scraper	0		Scraper	0		Scraper	0		Scraper	0		Scraper	0		Scraper	0
**	Grader	1	**	Paving Machine	1		Cassion Drill	0	**	Pile Driver	1		Cassion Drill	0		Cassion Drill	0
	Excavator	0		Excavator	0		Excavator	0		Excavator	0		Excavator	0		Excavator	0
	Cherry Picker	0		Cherry Picker	0		Cherry Picker	1		Cherry Picker	4		Cherry Picker	0		Cherry Picker	0
	Front Loader	1		Front Loader	0		Front Loader	0		Front Loader	1		Front Loader	0		Front Loader	0
	Backhoe	2		Backhoe	0		Backhoe	1		Backhoe	2		Backhoe	0		Backhoe	0
	Compactor	0		Compactor	0		Compactor	0		Compactor	0		Compactor	0		Compactor	0
	Compressor	0		Compressor	0		Compressor	0		Compressor	2		Compressor	2		Compressor	2
Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th		Critical Receptors:	Joe @29th & 11th	
Total Hours	1	2595	Total Hours	1	2595	Total Hours	1	2595	Total Hours	1	2595	Total Hours	1	2595	Total Hours	1	2595
Trucks/Hr	70	0.02697495	Trucks/Hr	140	0.0539499	Trucks/Hr	710	0.27360308	Trucks/Hr	34	0.01310212	Trucks/Hr	270	0.10404624			

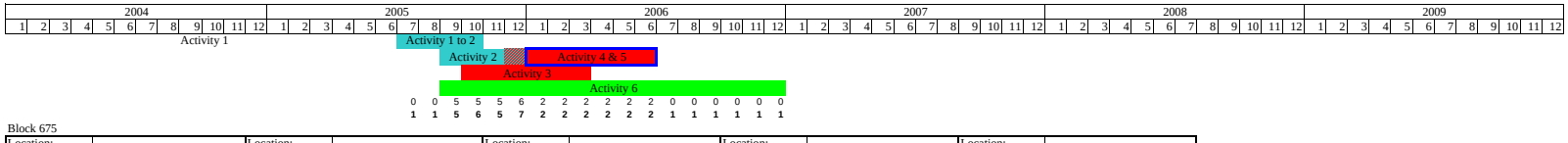




E'trn Yards

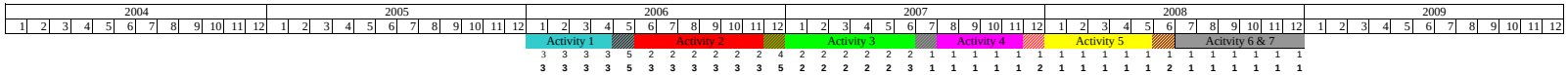
Location:	Blocks 702 and 704			Location:	Blocks 702 and 704			Location:	Blocks 702 and 704			Location:	Blocks 702 and 704			Location:	Blocks 702 and 704		
Color:	Activity 1 (10/04 – 1/05)			Color:	Activity 2 to 3 (10/04 – 4/05)			Color:	Activity 4 (1/05 to 9/05)			Color:	Activity 5 (1/04 - 9/04)			Color:	Activity 6 (10/04 - 6/05)		
Block:				Block:				Block:				Block:				Block:			
Phase:				Phase:				Phase:				Phase:				Phase:			
Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	0	
See	Scraper	0			Scraper	0		*See Activity 6*	Scraper	0		*See Activity 6*	Scraper	0		*See Activity 6*	Scraper	1	
Activity 2 - 3	Cassion Drill	0			Cassion Drill	0			Cassion Drill	0		See also 9	Cassion Drill	0		See also 9	Cassion Drill	4	
	Excavator	0			Excavator	2			Excavator	0			Excavator	0			Excavator	2	
	Cherry Picker	0			Cherry Picker	4			Cherry Picker	0			Cherry Picker	0			Cherry Picker	10	
	Front Loader	0			Front Loader	2			Front Loader	0			Front Loader	0			Front Loader	2	
	Backhoe	0			Backhoe	4			Backhoe	0			Backhoe	0			Backhoe	10	6
	Compactor	0			Compactor	0			Compactor	0			Compactor	0			Compactor	2	
	Compressor	0			Compressor	8			Compressor	0			Compressor	0			Compressor	20	
Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th		
Total Hours	1	**1305**		Total Hours	1	**2265**		Total Hours	1	**2925**		Total Hours	1	**2955**		Total Hours	1	2940	
Trucks/Hr	70	0.05363985		Trucks/Hr	310	0.13686534		Trucks/Hr	5850	2		Trucks/Hr	14450	4.89001692		Trucks/Hr	810	0.2755102	

Location:	Blocks 702 and 704			Location:	Blocks 702 and 704			Location:	Blocks 702 and 704		
Color:	Activity 7 (1/05 to 12/08)			Color:	Activity 8 (6/05 - 12/09)			Color:	Activity 9 (6/05 - 12/09)		
Block:				Block:				Block:			
Phase:				Phase:				Phase:			
Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	8	
See Activity 9	Scraper	0		*See Activity 9*	Scraper	0			Scraper	0	
	Cassion Drill	0			Cassion Drill	0			Cassion Drill	0	
	Excavator	0			Excavator	0			Excavator	0	
	Cherry Picker	0			Cherry Picker	0			Cherry Picker	10	
	Front Loader	0			Front Loader	0			Front Loader	0	
	Backhoe	0			Backhoe	0			Backhoe	0	
	Compactor	0			Compactor	0			Compactor	0	
	Compressor	0			Compressor	0			Compressor	20	
Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th		
Total Hours	1	**15645**		Total Hours	1	**17955**		Total Hours	1	17955	
Trucks/Hr	5850	0.37392138		Trucks/Hr	14450	0.80478975		Trucks/Hr	810	0.04511278	



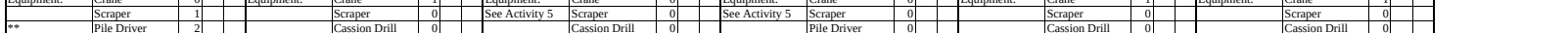
Block 675

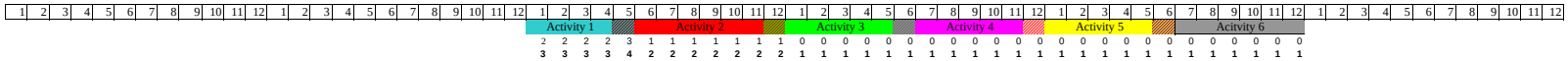
Location:				Location:				Location:				Location:				Location:			
Color:	Activity 1			Color:	Activity 2			Color:	Activity 3			Color:	Activity 4 &5			Color:	Activity 6		
Block:	Block 675			Block:	Block 675			Block:	Block 675			Block:	Block 675			Block:	Block 675		
Phase:	Excavation (Soil & Asphalt)			Phase:	Building Demolition			Phase:	Drill & Blast (Rock Spoils)			Phase:	Tunnel & Concrete			Phase:	Gen. subway construction		
Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	1		Equipment:	Crane	0		Equipment:	Crane	0	
	Scraper	0			Scraper	0			Scraper	0			Scraper	0			Scraper	0	
**	Grader	1		**	Paving Machine	1			Cassion Drill	0		**	Pile Driver	1			Cassion Drill	0	
	Excavator	0			Excavator	0			Excavator	0			Excavator	0			Excavator	0	
	Cherry Picker	0			Cherry Picker	0			Cherry Picker	1			Cherry Picker	4			Cherry Picker	0	
	Front Loader	1			Front Loader	0			Front Loader	0			Front Loader	1			Front Loader	0	
	Backhoe	2			Backhoe	0			Backhoe	1			Backhoe	2			Backhoe	0	
	Compactor	0			Compactor	0			Compactor	0			Compactor	0			Compactor	0	
	Compressor	0			Compressor	0			Compressor	0			Compressor	2			Compressor	2	
Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th		



Block 729 Brookfield

Location:				Location:				Location:				Location:				Location:				Location:			
Color:	Activity 1			Color:	Activity 2			Color:	Activity 3			Color:	Activity 4			Color:	Activity 5			Color:	Activity 6 & 7		
Block:	Block 729 Lot 50			Block:	Block 729			Block:	Block 729			Block:	Block 729			Block:	Block 729			Block:	Block 729		
Phase:	Excavation (Soil & Asphalt)			Phase:	Building Demolition			Phase:	Drill & Blast (Rock Spoils)			Phase:	Tunnel & Concrete			Phase:	General Construction			Phase:	Gen. subway construction		
Equipment:	Crane	0		Equipment:	Crane	1		Equipment:	Crane	0		Equipment:	Crane	0		Equipment:	Crane	1		Equipment:	Crane	1	
	Scraper	1			Scraper	0		See Activity 5	Scraper	0		See Activity 5	Scraper	0			Scraper	0			Scraper	0	
**	Pile Driver	2			Cassion Drill	0			Cassion Drill	0			Pile Driver	0			Cassion Drill	0			Cassion Drill	0	
	Excavator	3			Excavator	0			Excavator	0			Excavator	0			Excavator	0			Excavator	0	
	Cherry Picker	3			Cherry Picker	2			Cherry Picker	0			Cherry Picker	0			Cherry Picker	4			Cherry Picker	4	
	Front Loader	2			Front Loader	2			Front Loader	0			Front Loader	0			Front Loader	2			Front Loader	0	
	Backhoe	4			Backhoe	4			Backhoe	0			Backhoe	0			Backhoe	4			Backhoe	4	
	Compactor	1			Compactor	0			Compactor	0			Compactor	0			Compactor	0			Compactor	0	
	Compressor	8			Compressor	8			Compressor	0			Compressor	0			Compressor	15			Compressor	8	
Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th			Critical Receptors:	Joe @29th & 11th		





B41st Street and 10th

| | | |

TABLE V-54: Area A - Maximum Leq, Ldn Levels

697-1, 60
25th to 26th St -10th to 11th Ave
12 2004

	Dist (ref) ft	Dist ft		
	50	750		
Max	**109**	**85**	**84**	**79**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**105**	**92**	**103**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage Factor		
Excavation (Soil & Asphalt)						
Crane	1	95	3.16E+09	0.9	2.85E+09	
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Excavator	1	95	3.16E+09	0.9	2.85E+09	
Cherry Picker	4		4.00E+00	0.9	3.60E+00	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	2	93	3.99E+09	0.9	3.59E+09	
Compactor	1	88	6.31E+08	0.9	5.68E+08	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Drill & Blast (Rock Spoils)						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Tunnel & Concrete						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Tunnel & Steel						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	6	86	2.39E+09	0.6	1.43E+09	91.6
Total			7.12E+10		5.23E+10	

TABLE V-55: Area A - Minimum Leq, Ldn Levels

697-1, 60
25th to 26th St -10th to 11th Ave
12 2007 - 8 2008

	Dist (ref) ft	Dist ft		
	50	750		
Min	**103**	**79**	**77**	**73**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Min	**98**	**84**	**96**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage Factor		
Construction & Masonry						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Tunnel & Steel						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.87E+10		1.22E+10	

TABLE V-56: Area N - Maximum Leq, Ldn Levels

763-47
40th St btw 8th and 9th
12 2007 - 3 2008

	Dist (ref) ft	Dist ft		
	50	75		
Max	**106**	**102**	**100**	**96**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**101**	**84**	**99**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Drill & Blast (Rock Spoils)					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	0	86	0.00E+00	0.9	0.00E+00
Tunnel & Concrete					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	2	93	3.99E+09	0.6	2.39E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	3	86	1.19E+09	0.9	1.07E+09
Tunnel & Steel					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	2	93	3.99E+09	0.6	2.39E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	3	86	1.19E+09	0.9	1.07E+09
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00

Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	0	86	0.00E+00	0.9	0.00E+00	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			3.95E+10		2.44E+10	

TABLE V-57: Area N - Minimum Leq, Ldn Levels

763-47
40th St btw 8th and 9th
7-9 2009

	Min	Dist (ref) ft 50	Dist ft 75					
		100	**96**	**94**	**90**	**95**	**84**	**93**
		Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage Factor		
Tunnel & Steel						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	3	86	1.19E+09	0.9	1.07E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			9.14E+09		5.84E+09	

TABLE V-58: Tenth Ave. Station - Maximum Leq, Ldn Levels

1051-01
10th Ave and 42nd St
6 2005

	Dist (ref) ft	Dist ft		
	50	200		
Max	**110**	**98**	**96**	**91**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**105**	**84**	**103**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Building Demolition					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	2	95	6.32E+09	0.6	3.79E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	6	86	2.39E+09	0.9	2.15E+09
Grading & Excavation					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	1	95	3.16E+09	0.9	2.85E+09
Excavator	2	95	6.32E+09	0.6	3.79E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	6	93	1.20E+10	0.6	7.18E+09
Compactor	1	88	6.31E+08	0.6	3.79E+08
Compressor	6	86	2.39E+09	0.9	2.15E+09
Tunnel Wall Steel					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	6	86	2.39E+09	0.9	2.15E+09
Retaining Wall					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00

Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
			9.26E+10		5.91E+10	

TABLE V-59: Tenth Ave. Station - Minimum Leq, Ldn Levels

1051-01
10th Ave and 42nd St
1-11 2007

	Dist (ref) ft	Dist ft		
	50	200		
Min	**104**	**92**	**90**	**85**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**

Min	**99**	**87**	**97**
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Drill & Blast (spoils removal)						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	2	86	7.96E+08	0.6	4.78E+08	86.8
Total			2.40E+10		1.49E+10	

TABLE V-60: Tenth Ave. Station (Site 2) - Maximum Leq, Ldn Levels

1051-01
10th Ave and 42nd St
6 2005

	Dist (ref) ft	Dist ft		
	50	275		
Max	**110**	**95**	**93**	**88**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**105**	**84**	**103**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Building Demolition					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	2	95	6.32E+09	0.6	3.79E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	6	86	2.39E+09	0.9	2.15E+09
Grading & Excavation					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	1	95	3.16E+09	0.9	2.85E+09
Excavator	2	95	6.32E+09	0.6	3.79E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	6	93	1.20E+10	0.6	7.18E+09
Compactor	1	88	6.31E+08	0.6	3.79E+08
Compressor	6	86	2.39E+09	0.9	2.15E+09
Tunnel Wall Steel					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	6	86	2.39E+09	0.9	2.15E+09
Retaining Wall					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00

Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			9.26E+10		5.91E+10	

TABLE V-61: Tenth Ave. Station (Site 2) - Minimum Leq, Ldn Levels

1051-01
10th Ave and 42nd St
1-11 2007

	Dist (ref) ft	Dist ft					
	50	275					
Min	**104**	**89**	**87**	**82**	**99**	**87**	**97**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Drill & Blast (spoils removal)						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	2	86	7.96E+08	0.6	4.78E+08	86.8
Total			2.40E+10		1.49E+10	

TABLE V-62: 34th St. Station - Maximum Leq, Ldn Levels

705-1,5,8 & 706-1
10th Ave and 42nd St
6 2006

	Dist (ref) ft	Dist ft		
	50	200		
Max	**111**	**99**	**97**	**93**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**107**	**94**	**105**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Excavation (Soil & Asphalt)					
Crane	1	95	3.16E+09	0.9	2.85E+09
Scraper	1	95	3.16E+09	0.9	2.85E+09
Excavator	1	95	3.16E+09	0.9	2.85E+09
Cherry Picker	4	83	7.98E+08	0.9	7.18E+08
Front Loader	2	97	1.00E+10	0.9	9.02E+09
Backhoe	2	93	3.99E+09	0.9	3.59E+09
Compactor	1	88	6.31E+08	0.9	5.68E+08
Compressor	6	86	2.39E+09	0.9	2.15E+09
Building Demolition					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	4	95	1.26E+10	0.6	7.59E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	4	97	2.00E+10	0.6	1.20E+10
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	12	86	4.78E+09	0.9	4.30E+09
Drill & Blast (Rock Spoils)					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	6	93	1.20E+10	0.6	7.18E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	8	86	3.18E+09	0.9	2.87E+09
Gen. subway construction					
Crane	1	95	3.16E+09	0.6	1.90E+09

Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08	
Front Loader	1	97	5.01E+09	0.6	3.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	10	86	3.98E+09	0.6	2.39E+09	93.8
Total			1.26E+11		8.67E+10	

TABLE V-63: 34th St. Station - Minimum Leq, Ldn Levels

705-1,5,8 & 706-1 Dist (ref) ft Dist ft
10th Ave and 42nd St 50 200 Change Distance in Max, not here
1 - 9 2009 **Min** **103** **91** **89** **84** **98** **84** **96**
Leq(50') **Leq (1-hr)** **Leq (8-hr)** **Ldn** **Ld(50')** **_n(+10)(50'** **Ldn(50')**

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Gen. subway construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08	
Front Loader	1	97	5.01E+09	0.6	3.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.97E+10		1.26E+10	

TABLE V-64: Multi-Use Facility - Maximum Leq, Ldn Levels

676, 679
11th to 12th Ave, 30th to 34th
11 2005 - 6 2006

	Dist (ref) ft	Dist ft		
	50	1000		
Max	**112**	**86**	**85**	**80**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**108**	**87**	**106**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Crane	2	95	6.32E+09	0.9	5.69E+09	
Scraper	2	95	6.32E+09	0.9	5.69E+09	
Excavator	2	95	6.32E+09	0.9	5.69E+09	
Cherry Picker	4	83	7.98E+08	0.9	7.18E+08	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	6	93	1.20E+10	0.9	1.08E+10	
Compactor	0	88	0.00E+00	0.9	0.00E+00	
Compressor	8	86	3.18E+09	0.9	2.87E+09	
Crane	8	95	2.53E+10	0.6	1.52E+10	
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Excavator	2	95	6.32E+09	0.6	3.79E+09	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	10	93	2.00E+10	0.6	1.20E+10	
Compactor	2	88	1.26E+09	0.6	7.57E+08	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Crane	8	95	2.53E+10	0.6	1.52E+10	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Shotcrete Pump	0	84	0.00E+00	0.6	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Trucks	2	86	7.96E+08	0.6	4.78E+08	86.8
Total			1.57E+11		1.13E+11	

TABLE V-65: Multi-Use Facility - Minimum Leq, Ldn Levels

676, 679
11th to 12th Ave, 30th to 34th
9 2006 - 6 2009

		Dist (ref) ft	Dist ft				
		50	1000				
	Min	**106**	**80**	**78**	**73**	**101**	**84**	**99**
		Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
General Stadium Finishing						
Crane	8	95	2.53E+10	0.6	1.52E+10	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Shotcrete Pump	0	84	0.00E+00	0.6	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
			3.57E+10		2.38E+10	

TABLE V-66: Block 685 - Maximum Leq, Ldn Levels

685
11th to 12th Ave, 36th to 39th
12 2004

	Dist (ref) ft	Dist ft		
	50	450		
Max	**112**	**93**	**92**	**87**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**108**	**89**	**106**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Crane	1	95	3.16E+09	0.9	2.85E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	2	95	6.32E+09	0.9	5.69E+09
Cherry Picker	4	83	7.98E+08	0.9	7.18E+08
Front Loader	4	97	2.00E+10	0.9	1.80E+10
Backhoe	4	93	7.98E+09	0.9	7.18E+09
Compactor	0	88	0.00E+00	0.9	0.00E+00
Compressor	10	86	3.98E+09	0.9	3.58E+09
Crane	6	95	1.90E+10	0.6	1.14E+10
Scraper	2	95	6.32E+09	0.9	5.69E+09
Excavator	6	95	1.90E+10	0.6	1.14E+10
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09
Front Loader	6	97	3.01E+10	0.6	1.80E+10
Backhoe	10	93	2.00E+10	0.6	1.20E+10
Compactor	4	88	2.52E+09	0.6	1.51E+09
Compressor	20	86	7.96E+09	0.9	7.17E+09
Crane	3	95	9.49E+09	0.6	5.69E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Shotcrete Pump	0	84	0.00E+00	0.6	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	6	93	1.20E+10	0.6	7.18E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	10	86	3.98E+09	0.9	3.58E+09

Trucks	3	86	1.19E+09	0.6	7.17E+08	88.6
Total			1.78E+11		1.25E+11	

TABLE V-67: Block 685 - Minimum Leq, Ldn Levels

685
11th to 12th Ave, 36th to 39th
4-12 2010

				Dist (ref) ft	Dist ft					
				50	450					
			Min	**102**	**83**	**82**	**77**	**98**	**84**	**97**
				Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Stage 3: Misc. Construction						
Crane	1	95	3.16E+09	0.9	2.85E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.9	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.9	3.59E+08	
Front Loader	1	97	5.01E+09	0.9	4.51E+09	
Backhoe	2	93	3.99E+09	0.9	3.59E+09	
Compactor	0	88	0.00E+00	0.9	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.46E+10		1.30E+10	

TABLE V-68: Block 1089/Lot 03 - Maximum Leq, Ldn Levels

1089-03
11th to 12th Ave and 41st to 42nd St
2 2008

	Dist (ref) ft	Dist ft		
	50	300		
Max	**110**	**95**	**93**	**88**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**

Max	**106**	**87**	**104**
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Building Demolition					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	4	95	1.26E+10	0.6	7.59E+09
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08
Front Loader	4	97	2.00E+10	0.6	1.20E+10
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	12	86	4.78E+09	0.9	4.30E+09
Drill & Blast (Rock Spoils)					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	2	97	1.00E+10	0.6	6.01E+09
Backhoe	6	93	1.20E+10	0.6	7.18E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	8	86	3.18E+09	0.9	2.87E+09
Tunnel & Concrete					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Shotcrete Pump	1	84	2.51E+08	0.9	2.26E+08
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	4	93	7.98E+09	0.6	4.79E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	6	86	2.39E+09	0.9	2.15E+09

Gen. subway construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08	
Front Loader	1	97	5.01E+09	0.6	3.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	2	86	7.96E+08	0.6	4.78E+08	86.8
			1.09E+11		6.95E+10	

TABLE V-69: Block 1089/Lot 03 - Minimum Leq, Ldn Levels

1089-03
11th to 12th Ave and 41st to 42nd St
9-12 2008

				Dist (ref) ft	Dist ft				
				50	300				
			Min	**103**	**87**	**85**	**81**	**98**	**84**	**96**
				Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Gen. subway construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08	
Front Loader	1	97	5.01E+09	0.6	3.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
			1.97E+10		1.26E+10	

TABLE V-70: Block 707/Lot 01 - Maximum Leq, Ldn Levels

707-01
10th to 11th Ave and 35th to 36th St
2 2008

	Dist (ref) ft	Dist ft		
	50	250		
Max	**108**	**94**	**93**	**88**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**104**	**92**	**102**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Excavation & Trenching						
Crane	0	95	0.00E+00	0.9	0.00E+00	
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Dozer	2	85	6.32E+08	0.9	5.69E+08	
Excavator	2	95	6.32E+09	0.9	5.69E+09	
Cherry Picker	3	83	5.99E+08	0.9	5.39E+08	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	4	93	7.98E+09	0.9	7.18E+09	
Compactor	1	88	6.31E+08	0.9	5.68E+08	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Civil/Structural Construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	6	93	1.20E+10	0.6	7.18E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	8	86	3.18E+09	0.9	2.87E+09	
Trucks	6	86	2.39E+09	0.6	1.43E+09	91.6
Totals			6.21E+10		4.75E+10	

TABLE V-71: Block 707/Lot 01 - Minimum Leq, Ldn Levels

707-01
10th to 11th Ave and 35th to 36th St
5-12 2008

	Dist (ref) ft	Dist ft					
	50	250					
Min	**98**	**84**	**84**	**79**	**95**	**84**	**93**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**Ln(+10)(50')**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Construction Finishing						
Crane	1	95	3.16E+09	0.9	2.85E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Dozer	0	85	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.9	0.00E+00	
Cherry Picker	3	83	5.99E+08	0.9	5.39E+08	
Front Loader	0	97	0.00E+00	0.9	0.00E+00	
Backhoe	0	93	0.00E+00	0.9	0.00E+00	
Compactor	0	88	0.00E+00	0.9	0.00E+00	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			6.55E+09		5.77E+09	

TABLE V-72: Block 705/Lot 53 - Maximum Leq, Ldn Levels

705-53, 54
34th St btw 10th to 11th Ave
4 2009

	Dist (ref) ft	Dist ft		
	50	250		
Max	**107**	**93**	**92**	**87**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**103**	**84**	**101**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Excavation & Trenching						
Crane	0	95	0.00E+00	0.9	0.00E+00	
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Dozer	0	104	0.00E+00	0.9	0.00E+00	
Excavator	2	95	6.32E+09	0.9	5.69E+09	
Cherry Picker	2	83	3.99E+08	0.9	3.59E+08	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	4	93	7.98E+09	0.9	7.18E+09	
Compactor	1	88	6.31E+08	0.9	5.68E+08	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Grading						
Crane	0	95	0.00E+00	0.6	0.00E+00	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	1	83	2.00E+08	0.6	1.20E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	1	88	6.31E+08	0.6	3.79E+08	
Compressor	0	86	0.00E+00	0.9	0.00E+00	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			4.54E+10		3.62E+10	

TABLE V-73: Block 705/Lot 53 - Minimum Leq, Ldn Levels

705-53, 54
34th St btw 10th to 11th Ave
5-12 2009

	Dist (ref) ft	Dist ft					
	50	250	Change Distance in Max, not here				
Min	**102**	**88**	**86**	**81**	**97**	**84**	**95**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Grading						
Grading						
Crane	0	95	0.00E+00	0.6	0.00E+00	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	1	83	2.00E+08	0.6	1.20E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	1	88	6.31E+08	0.6	3.79E+08	
Compressor	0	86	0.00E+00	0.9	0.00E+00	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.52E+10		9.15E+09	

TABLE V-74: Corona Yard - Maximum Leq, Ldn Levels

Corona Yard				Dist (ref) ft	Dist ft	
Corona Yard				50	1000	
12 2005 - 4 2006			**Max**	**103**	**77**	**75**	**70**
				Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
			Max	**98**	**84**	**96**	
				Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Tunnel and Concrete					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Paving Machine	0	89	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	4		4.00E+00	0.6	2.40E+00
Front Loader	1	97	5.01E+09	0.6	3.01E+09
Backhoe	2	93	3.99E+09	0.6	2.39E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	2	86	7.96E+08	0.9	7.17E+08
Drill & Blast (Rock Spoils)					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
Paving Machine	0	89	0.00E+00	0.9	0.00E+00
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	1	83	2.00E+08	0.6	1.20E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	1	93	2.00E+09	0.6	1.20E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	0	86	0.00E+00	0.9	0.00E+00
Building Demolition					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Paving Machine	1	89	7.94E+08	0.9	7.15E+08
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	0	93	0.00E+00	0.6	0.00E+00
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	2	86	7.96E+08	0.9	7.17E+08
Gen. subway construction					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Paving Machine	0	89	0.00E+00	0.9	0.00E+00

Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	2	86	7.96E+08	0.9	7.17E+08	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.79E+10		1.17E+10	

TABLE V-75: Corona Yard - Minimum Leq, Ldn Levels

705-53, 54
34th St btw 10th to 11th Ave
7 2006 - 9 2008

	Dist (ref) ft	Dist ft					
	50	1000					
Min	**91**	**65**	**64**	**61**	**88**	**84**	**87**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**_n(+10)(50'**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Compressor	2	86	7.96E+08	0.9	7.17E+08	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.19E+09		9.55E+08	

TABLE V-76: Caemmerer Yard East - Maximum Leq, Ldn Levels

702, 704
30th - 33rd St / 10th - 11th Ave
1 2005 - 6 2005

	Dist (ref) ft	Dist ft		
	50	800		
Max	**111**	**87**	**85**	**80**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
Max	**107**	**89**	**105**	
	Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Activities 2 and 3						
Excavator	2	95	6.32E+09	0.9	5.69E+09	
Cherry Picker	4	83	7.98E+08	0.9	7.18E+08	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	4	93	7.98E+09	0.9	7.18E+09	
Compressor	8	86	3.18E+09	0.9	2.87E+09	
Activities 4 and 6						
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Excavator	2	95	6.32E+09	0.6	3.79E+09	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	10	93	2.00E+10	0.6	1.20E+10	
Compactor	2	88	1.26E+09	0.6	7.57E+08	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Activities 7, 8 and 9						
Crane	8	95	2.53E+10	0.6	1.52E+10	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Trucks	3	86	1.19E+09	0.6	7.17E+08	88.6
Total			1.15E+11		8.35E+10	

TABLE V-77: Caemmerer Yard East - Minimum Leq, Ldn Levels

676, 679
11th to 12th Ave, 30th to 34th
9 2006 - 6 2009

		Dist (ref) ft	Dist ft					
		50	800	Change Distance in Max, not here				
Min		**106**	**81**	**80**	**75**	**101**	**84**	**99**
		Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**Ln(+10)(50')**	**Ldn(50')**

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Activities 7, 8 and 9						
Crane	8	95	2.53E+10	0.6	1.52E+10	
Cherry Picker	10	83	2.00E+09	0.6	1.20E+09	
Compressor	20	86	7.96E+09	0.9	7.17E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			3.57E+10		2.38E+10	

TABLE V-78: Block 675 - Maximum Leq, Ldn Levels

675
29th - 30th, 11th and SR-9A
10 2005

			Dist (ref) ft	Dist ft	
			50	1000	
		Max	**103**	**77**	**76**
			Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**
	Max	**99**	**92**	**98**	**72**
		Ld(50')	**Ln(+10)(50')**	**Ldn(50')**	**Ldn**

Equipment	Quantity	Leq (ref)	Leq	Usage F.	
Excavation (Soil & Asphalt)					
Crane	0	95	0.00E+00	0.9	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Grader	1	85	3.16E+08	0.9	2.85E+08
Excavator	0	95	0.00E+00	0.9	0.00E+00
Cherry Picker	0	83	0.00E+00	0.9	0.00E+00
Front Loader	1	97	5.01E+09	0.9	4.51E+09
Backhoe	2	93	3.99E+09	0.9	3.59E+09
Compactor	0	88	0.00E+00	0.9	0.00E+00
Compressor	0	86	0.00E+00	0.9	0.00E+00
Building Demolition					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00
Paving Machine	1	89	7.94E+08	0.9	7.15E+08
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	0	93	0.00E+00	0.6	0.00E+00
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	0	86	0.00E+00	0.9	0.00E+00
Drill & Blast (Rock Spoils)					
Crane	1	95	3.16E+09	0.6	1.90E+09
Scraper	0	95	0.00E+00	0.9	0.00E+00
	0				
Excavator	0	95	0.00E+00	0.6	0.00E+00
Cherry Picker	1	83	2.00E+08	0.6	1.20E+08
Front Loader	0	97	0.00E+00	0.6	0.00E+00
Backhoe	1	93	2.00E+09	0.6	1.20E+09
Compactor	0	88	0.00E+00	0.6	0.00E+00
Compressor	0	86	0.00E+00	0.9	0.00E+00
Gen. subway construction					
Crane	0	95	0.00E+00	0.6	0.00E+00
Scraper	0	95	0.00E+00	0.9	0.00E+00

	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	2	86	7.96E+08	0.9	7.17E+08	
Trucks	6	86	2.39E+09	0.6	1.43E+09	91.6
Total			1.87E+10		1.45E+10	

TABLE V-79: Block 675 - Minimum Leq, Ldn Levels

675
29th - 30th, 11th and SR-9A
7-12 2006

	Dist (ref) ft	Dist ft		
	50	1000		
Min	**90.8**	**65**	**64**	**61**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**
	88	**84**	**87**	
Min	**Ld(50')**	**Ln(+10)(50')**	**Ldn(50')**	

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Construction & Masonry						
Crane	0	95	0.00E+00	0.6	0.00E+00	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	0	83	0.00E+00	0.6	0.00E+00	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	0	93	0.00E+00	0.6	0.00E+00	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	2	86	7.96E+08	0.9	7.17E+08	
Tunnel & Steel						
Crane		95	0.00E+00	0.6	0.00E+00	
Scraper		95	0.00E+00	0.9	0.00E+00	
Excavator		95	0.00E+00	0.6	0.00E+00	
Cherry Picker		83	0.00E+00	0.6	0.00E+00	
Front Loader		97	0.00E+00	0.6	0.00E+00	
Backhoe		93	0.00E+00	0.6	0.00E+00	
Compactor		88	0.00E+00	0.6	0.00E+00	
Compressor		86	0.00E+00	0.9	0.00E+00	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
			1.19E+09		9.55E+08	

TABLE V-80: Block 729/Lot 50 - Maximum Leq, Ldn Levels

729-50
31st btw 9th Ave and LT Approach
5 2006

Dist (ref) ft	Dist ft					
50	300					
106	90	90	85	103	91	101
Leq(50')	Leq (1-hr)	Leq (8-hr)	Ldn	Ld(50')	Ln(+10)(50')	Ldn(50')

Excavation (Soil & Asphalt) and Building Demolition

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	1	95	3.16E+09	0.9	2.85E+09	
Excavator	3	95	9.49E+09	0.9	8.54E+09	
Cherry Picker	3	83	5.99E+08	0.9	5.39E+08	
Front Loader	2	97	1.00E+10	0.9	9.02E+09	
Backhoe	4	93	7.98E+09	0.9	7.18E+09	
Compactor	1	88	6.31E+08	0.9	5.68E+08	
Compressor	8	86	3.18E+09	0.9	2.87E+09	
Trucks	5	86	1.99E+09	0.6	1.19E+09	90.8
			4.02E+10		3.47E+10	

TABLE V-81: Block 729/Lot 50 - Minimum Leq, Ldn Levels

729-50
31st btw 9th Ave and LT Approach
8-11 2007

Dist (ref) ft	Dist ft					
50	300	Change Distance in Max, not here				
102	86	85	80	97	84	96
Leq(50')	Leq (1-hr)	Leq (8-hr)	Ldn	Ld(50')	Ln(+10)(50')	Ldn(50')

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
General Subway Construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	4	83	7.98E+08	0.6	4.79E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	8	86	3.18E+09	0.9	2.87E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			1.55E+10		1.03E+10	

TABLE V-82: Block 1050 - Maximum Leq, Ldn Levels

1050-1,6,61,158		Dist (ref) ft	Dist ft					
10th btw 41st and 42nd		50	150					
5 2006	**Max**	**105**	**96**	**94**	**89**	**101**	**90**	**99**
		Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**Ln(+10)(50')**	**Ldn(50')**

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
Grading, Concrete and Piles						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
Grader	1	85	3.16E+08	0.9	2.85E+08	
Excavator	2	95	6.32E+09	0.6	3.79E+09	
Cherry Picker	3	83	5.99E+08	0.6	3.59E+08	
Front Loader	2	97	1.00E+10	0.6	6.01E+09	
Backhoe	4	93	7.98E+09	0.6	4.79E+09	
Compactor	1	88	6.31E+08	0.6	3.79E+08	
Compressor	6	86	2.39E+09	0.9	2.15E+09	
Trucks	4	86	1.59E+09	0.6	9.55E+08	89.8
			3.30E+10		2.06E+10	

TABLE V-83: Block 729/Lot 50 - Minimum Leq, Ldn Levels

729-50
10th btw 41st and 42nd
7-11 2007

	Dist (ref) ft	Dist ft					
	50	150					
Min	**100**	**90**	**88**	**84**	**95**	**84**	**93**
	Leq(50')	**Leq (1-hr)**	**Leq (8-hr)**	**Ldn**	**Ld(50')**	**Ln(+10)(50')**	**Ldn(50')**

*Change Distance in Max, not here

Equipment	Quantity	Leq (ref)	Leq	Usage F.		
General Construction						
Crane	1	95	3.16E+09	0.6	1.90E+09	
Scraper	0	95	0.00E+00	0.9	0.00E+00	
	0					
Excavator	0	95	0.00E+00	0.6	0.00E+00	
Cherry Picker	2	83	3.99E+08	0.6	2.39E+08	
Front Loader	0	97	0.00E+00	0.6	0.00E+00	
Backhoe	2	93	3.99E+09	0.6	2.39E+09	
Compactor	0	88	0.00E+00	0.6	0.00E+00	
Compressor	4	86	1.59E+09	0.9	1.43E+09	
Trucks	1	86	3.98E+08	0.6	2.39E+08	83.8
Total			9.54E+09		6.20E+09	