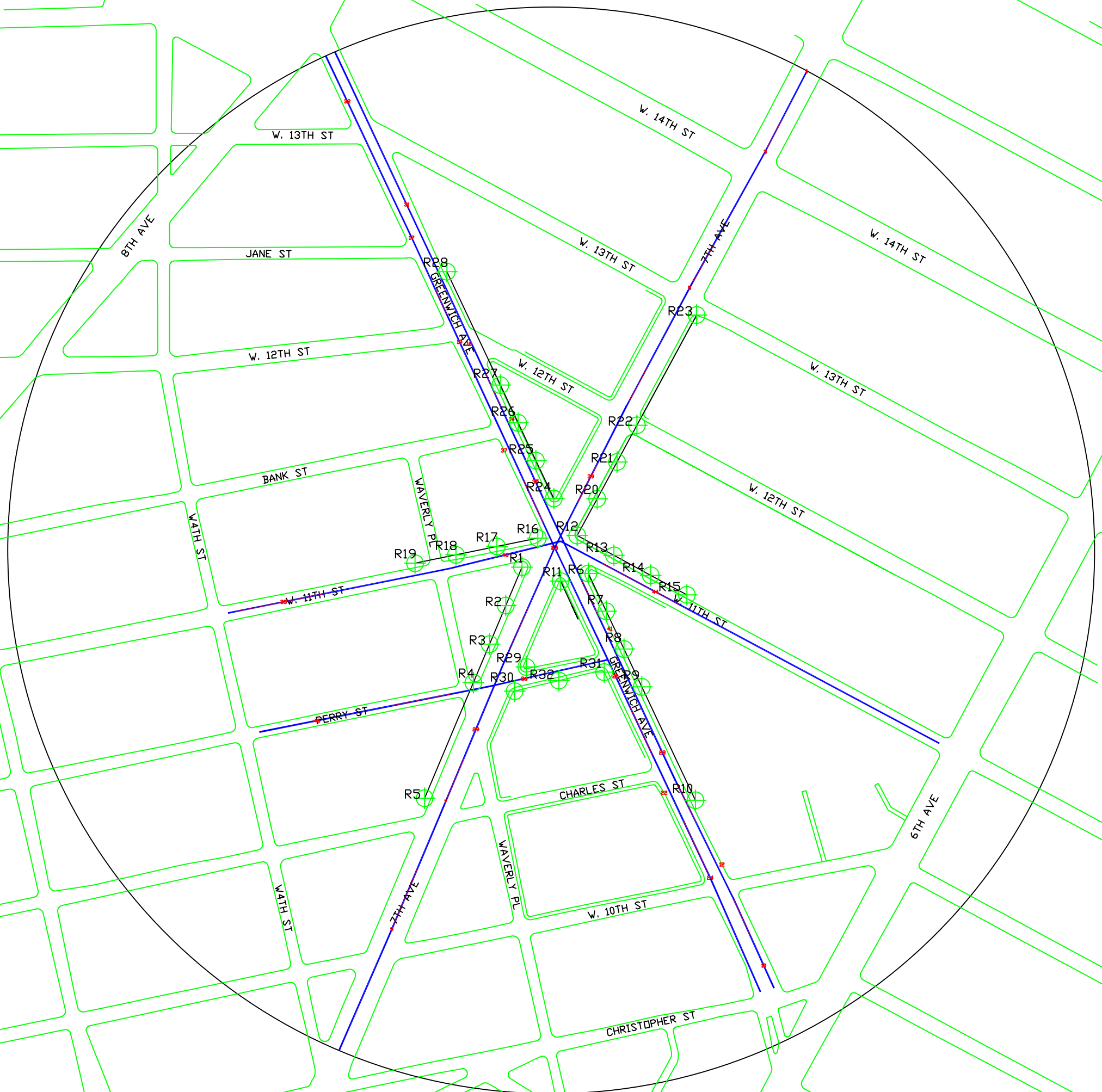


Appendix B

Air Quality

Mobile Source Analysis

Receptor Location



Emission Sheets

Greenwich Ave
Traffic Data Matrix
Scenario: Existing Peak 8:00 -9:00 AM

Location	Input				Input		Input		
	Existing 8:00-9:00	EX FF Speed	EX Composite	EX Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	mph	EF	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	180	12.40	11.6	62.77	1359	1359	90	36	1
Greenwich Ave NB Charles St	180	12.40	11.6	62.77	1359	1359	90	36	1
Greenwich Ave NB Perry St	165	8.80	12.9	62.77		0			1
Greenwich Ave NB @ 7th Ave & 11th St	229	12.40	11.6	62.77	2040	1020	90	66	2
Greenwich Ave NB Bank St	265	8.80	12.9	62.77		0			1
Greenwich Ave NB 12th St	271	12.40	11.6	62.77	1113	1113	90	36	1
Greenwich Ave NB Jane St	271	8.80	12.9	62.77		0			1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	96	6.40	15.0	64.35		0			1
Greenwich Ave SB 12th St	96	13.40	11.6	64.35	1163	1163	90	36	1
Greenwich Ave SB Bank St	121	6.40	15.0	64.35		0			1
Greenwich Ave SB @ 7th Ave & 11th St	144	13.40	11.6	64.35	1142	1142	90	67	1
Greenwich Ave SB Perry St	251	6.40	15.0	64.35		0			1
Greenwich Ave SB Charles St	256	13.40	11.6	64.35	1169	1169	90	36	1
Greenwich Ave SB 10th St	256	13.40	11.6	64.35	1169	1169	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1517	21.40	10.5	64.27	4299	1075	90	40	4
7th Ave SB 12th St	1540	21.40	10.5	64.27	4437	1109	90	43	4
7th Ave SB 12th St	1594	21.40	10.5	64.27	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1478	21.40	10.5	64.27	4342	1086	90	47	4
7th Ave SB Perry St	1433	21.40	10.5	64.27	4332	1083	90	43	4
7th Ave SB Charles St	1477	21.40	10.5	64.27	4619	1155	90	30	4
7th Ave SB 10th St	1477	21.40	10.5	64.27	4619	1155	90	30	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	213	21.40	10.5	64.15	1513	1513	90	66	1
11th St WB Waverly Pl	213	18.50	10.8	64.15		0			1
11th St WB W4th Ave	213	21.40	10.5	64.15	1513	1513	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	102	21.40	10.5	64.15	1371	1371	90	65	1
Perry Street EB Greenwich Avenue	76	18.50	10.8	64.15		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: Existing Peak 5:00 -6:00 PM

Location	Input				Input		Input		# Lanes
	Existing 5:00-6:00	EX FF Speed	EX Composite	EX Idle	SFR	SFR	Cycle	Red Time	
Street	Volume	mph	EF	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	261	10.20	12.3	63.39	1524	1524	90	36	1
Greenwich Ave NB Charles St	261	10.20	12.3	63.39	1524	1524	90	36	1
Greenwich Ave NB Perry St	250	6.90	14.2	63.39		0			1
Greenwich Ave NB @ 7th Ave & 11th St	263	10.20	12.3	63.39	2079	1040	90	66	2
Greenwich Ave NB Bank St	282	6.90	14.2	63.39		0			1
Greenwich Ave NB 12th St	292	10.20	12.3	63.39	1235	1235	90	36	1
Greenwich Ave NB Jane St	292	6.90	14.2	63.39					1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	127	5.30	15.9	63.40		0			1
Greenwich Ave SB @ 12th St	127	9.40	12.6	63.40	1177	1177	90	36	1
Greenwich Ave SB Bank St	169	5.30	15.9	63.40		0			1
Greenwich Ave SB @ 7th Ave & 11th St	189	9.40	12.6	63.40	1234	1234	90	67	1
Greenwich Ave SB Perry St	328	5.30	15.9	63.40		0	90		1
Greenwich Ave SB Charles St	359	9.40	12.6	63.40	1267	1267	90	36	1
Greenwich Ave SB 10th St	359	9.40	12.6	63.40	1267	1267	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1575	19.60	10.7	64.25	4660	1165	90	40	4
7th Ave SB 13th St	1650	19.60	10.7	64.25	4768	1192	90	43	4
7th Ave SB 12th St	1732	19.60	10.7	64.25	4790	1198	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1617	19.60	10.7	64.25	4676	1169	90	47	4
7th Ave SB Perry St	1481	19.60	10.7	64.25	4658	1165	90	43	4
7th Ave SB Charles St	1551	19.60	10.7	64.25	4812	1203	90	31	4
7th Ave SB 10th St	1551	19.60	10.7	64.25	4812	1203	90	31	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	216	19.60	10.6	63.73	1546	1546	90	66	1
11th St WB Waverly Pl	216	17.60	10.8	63.73		0	90		1
11th St WB W4th Ave	216	19.60	10.6	63.73	1546	1546	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	111	19.60	10.6	63.73	1413	1413	90	65	1
Perry Street EB Greenwich Avenue	48	17.60	10.8	63.73		0	90		1

Greenwich Ave										
Traffic Data Matrix										
Scenario: No Build 8:00 -9:00 AM										
		Input				Input			Input	
Location	No Build 8:00-9:00	NB FF Speed	EX Composite	EX Idle	SFR	SFR	Cycle	Red Time	# Lanes	
Street	Volume	mph	EF	EF	Total	per lane	(sec)	(sec)		
Greenwich Avenue NB										
Greenwich Ave NB 10th St	187	9.80	10.8	53.58	1359	1359	90	36	1	
Greenwich Ave NB Charles St	187	14.80	9.7	53.58	1359	1359	90	36	1	
Greenwich Ave NB Perry St	167	14.90	9.6	53.58		0			1	
Greenwich Ave NB @ 7th Ave & 11th St	232	14.90	9.6	53.58	2033	1017	90	66	2	
Greenwich Ave NB Bank St	269	9.60	10.9	53.58		0			1	
Greenwich Ave NB 12th St	275	9.60	10.9	53.58	1113	1113	90	36	1	
Greenwich Ave NB Jane St	275	9.60	10.9	53.58		0			1	
Greenwich Avenue SB										
Greenwich Ave SB Jane St	97	8.10	11.9	55.36		0			1	
Greenwich Ave SB 12th St	97	14.30	10.0	55.36	1162	1162	90	36	1	
Greenwich Ave SB Bank St	123	7.40	12.4	55.36		0			1	
Greenwich Ave SB @ 7th Ave & 11th St	146	13.20	10.2	55.36	1141	1141	90	67	1	
Greenwich Ave SB Perry St	255	7.40	12.4	55.36		0			1	
Greenwich Ave SB Charles St	260	17.10	9.6	55.36	1169	1169	90	36	1	
Greenwich Ave SB 10th St	260	10.60	10.9	55.36	1169	1169	90	36	1	
7th Avenue SB										
7th Ave SB 14th St	1544	19.40	9.6	55.44	4299	1075	90	40	4	
7th Ave SB 13th St	1567	17.30	9.7	55.44	4437	1109	90	43	4	
7th Ave SB 12th St	1622	16.80	9.7	55.44	4955	1239	90	47	4	
7th Ave SB @ Greenwich Ave & 11th St	1504	20.00	9.3	55.44	4342	1086	90	47	4	
7th Ave SB Perry St	1459	23.20	9.1	55.44	4332	1083	90	43	4	
7th Ave SB Charles St	1504	23.60	9.1	55.44	4619	1155	90	31	4	
7th Ave SB 10th St	1504	24.10	9.1	55.44	4619	1155	90	31	4	
11th St Westbound										
11th St WB Greenwich & 7th Ave	217	20.00	9.4	55.45	1531	1531	90	66	1	
11th St WB Waverly Pl	96	18.10	9.6	55.45		0			1	
11th St WB W4th Ave	96	20.00	9.4	55.45	1531	1531	90	66	1	
Perry Street Eastbound										
Perry Street EB 7th Avenue	104	20.00	9.4	55.45	1370	1370	90	65	1	
Perry Street EB Greenwich Avenue	70	18.10	9.6	55.45		0			1	

**Greenwich Ave
Traffic Data Matrix
Scenario: 2010 Build Peak 8:00 -9:00 AM**

Location Street	No Build 8:00-9:00	TOTAL		Build 8:00-9:00	BD FF Speed	BD Composite	Input BD Idle	SFR	Input SFR	Cycle	Red Time	Input # Lanes
	Volume	Gen Truck	Gen Emly Car	Volume	mph	EF	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB												
Greenwich Ave NB 10th St	187	0	2	189	9.80	10.8	53.61	1335	1335	90	36	1
Greenwich Ave NB Charles St	187	0	2	189	14.70	9.7	53.61	1335	1335	90	36	1
Greenwich Ave NB Perry St	167	0	2	169	15.10	9.6	53.61		0			1
Greenwich Ave NB @ 7th Ave & 11th St	232	0	2	234	15.10	9.6	53.60	2842	1421	90	66	2
Greenwich Ave NB Bank St	269	0	0	269	9.60	10.9	53.58		0			1
Greenwich Ave NB 12th St	275	0	0	275	9.60	10.9	53.58	1113	1113	90	36	1
Greenwich Ave NB Jane St	275	0	0	275	9.60	10.9	53.58		0			1
Greenwich Avenue SB												
Greenwich Ave SB Jane St	97	0	2	99	8.10	12.0	55.39		0			1
Greenwich Ave SB 12th St	97	0	2	99	14.30	10.0	55.39	1162	1162	90	36	1
Greenwich Ave SB Bank St	123	0	2	125	6.90	12.4	55.38		0			1
Greenwich Ave SB @ 7th Ave & 11th St	146	0	2	148	11.80	10.2	55.38	1141	1141	90	67	1
Greenwich Ave SB Perry St	255	0	0	0	7.40				0			1
Greenwich Ave SB Charles St	260	0	0	242	17.10	10.3	59.48	1146	1146	90	36	1
Greenwich Ave SB 10th St	260	0	0	242	10.60	11.7	59.48	1146	1146	90	36	1
7th Avenue SB												
7th Ave SB 14th St	1544	3	4	1551	19.30	9.6	55.38	4299	1075	90	40	4
7th Ave SB 13th St	1567	3	4	1574	17.20	9.7	55.38	4437	1109	90	43	4
7th Ave SB 12th St	1622	3	4	1629	16.40	9.7	55.38	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1504	3	4	1511	19.50	9.4	55.37	4331	1083	90	47	4
7th Ave SB Perry St	1459	3	0	1462	18.30	9.1	55.37	4332	1083	90	43	4
7th Ave SB Charles St	1504	3	0	1507	23.60	9.1	55.37	4619	1155	90	31	4
7th Ave SB 10th St	1504	3	0	1507	24.10	9.1	55.37		0	90	30	4
11th St Westbound												
11th St WB Greenwich & 7th Ave	217	0	0	217	19.50	9.4	55.45	1531	1531	90	66	1
11th St WB Waverly Pl	96	0	0	96	17.70	9.6	55.45		0			1
11th St WB W4th Ave	96	0	0	96	19.50	9.4	55.45	1531	1531	90	66	1
Perry Street Eastbound												
Perry Street EB 7th Avenue	104	0	0	104	19.50	9.4	55.45	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	70	0	0	307	17.70	2.2	12.64		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: 2010 Build Peak 5:00 -6:00 PM

Location Street	No Build 5:00-6:00	TOTAL		Build 5:00-6:00	BD FF Speed	BD Composite	Input		Input		Input	
	Volume	Gen Truck	Gen Empty Car	Volume	mph	EF	BD Idle EF	SFR Total	SFR per lane	Cycle (sec)	Red Time (sec)	# Lanes
Greenwich Avenue NB												
Greenwich Ave NB 10th St	265	0	0	265	11.20	10.6	54.68	1525	1525	90	36	1
Greenwich Ave NB Charles St	265	0	0	265	10.40	10.8	54.68	1525	1525	90	36	1
Greenwich Ave NB Perry St	254	0	0	254	3.60	17.3	54.68		0			1
Greenwich Ave NB @ 7th Ave & 11th St	267	0	2	269	3.60	17.3	54.70	3212	1606	90	66	2
Greenwich Ave NB Bank St	287	0	2	289	12.20	10.3	54.70		0			1
Greenwich Ave NB 12th St	297	0	2	299	12.20	10.3	54.69	1235	1235	90	36	1
Greenwich Ave NB Jane St	297	0	2	299	12.20	10.3	54.69		0			1
Greenwich Avenue SB												
Greenwich Ave SB Jane St	129	0	0	129	5.70	13.5	54.75		0			1
Greenwich Ave SB 12th St	129	0	0	129	10.90	10.6	54.75	1176	1176	90	36	1
Greenwich Ave SB Bank St	172	0	0	172	6.40	12.4	54.75		0			1
Greenwich Ave SB @ 7th Ave & 11th St	192	0	0	192	10.20	10.4	54.75	1147	1147	90	67	1
Greenwich Ave SB Perry St	333	0	0	0	6.90				0			1
Greenwich Ave SB Charles St	351	0	2	353	11.70	10.4	54.76	1323	1323	90	36	1
Greenwich Ave SB 10th St	351	0	2	353	7.60	12.0	54.76	1323	1323	90	36	1
7th Avenue SB												
7th Ave SB 14th St	1604	3	0	1607	17.70	9.7	55.50	4660	1165	90	40	4
7th Ave SB 13th St	1679	3	0	1682	16.00	9.8	55.51	4769	1192	90	43	4
7th Ave SB 12th St	1762	3	0	1765	12.70	10.4	55.51	4790	1198	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1645	3	0	1648	15.70	9.8	55.50	4631	1158	90	47	4
7th Ave SB Perry St	1507	3	4	1849	16.20	7.7	45.45	4332	1083	90	43	4
7th Ave SB Charles St	1578	3	4	1599	24.40	9.1	55.02	4619	1155	90	31	4
7th Ave SB 10th St	1578	3	4	1599	7.60	12.1	55.02	4619	1155	90	30	4
11th St Westbound												
11th St WB Greenwich & 7th Ave	219	0	0	219	15.70	9.8	55.10	1531	1531	90	66	1
11th St WB Waverly Pl	170	0	0	170	15.70	9.8	55.10		0			1
11th St WB W4th Ave	170	0	0	170	15.70	9.8	55.10	1531	1531	90	66	1
Perry Street Eastbound												
Perry Street EB 7th Avenue	114	0	0	114	15.70	9.8	55.10	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	364	0	4	368	15.70	9.8	55.12		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: PM10 EX 2007 Peak 8:00 -9:00 AM

Location	Input				Input		Input		
	No Build 8:00-9:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	180	12.40	0.818	0.050	1359	1359	90	36	1
Greenwich Ave NB Charles St	180	12.40	0.818	0.050	1359	1359	90	36	1
Greenwich Ave NB Perry St	165	8.80	0.818	0.050		0			1
Greenwich Ave NB @ 7th Ave & 11th St	229	12.40	0.818	0.050	2033	1017	90	66	2
Greenwich Ave NB Bank St	265	8.80	0.818	0.050		0			1
Greenwich Ave NB 12th St	271	12.40	0.818	0.050	1113	1113	90	36	1
Greenwich Ave NB Jane St	271	8.80	0.818	0.050		0			1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	96	6.40	0.854	0.093		0			1
Greenwich Ave SB 12th St	96	13.40	0.854	0.093	1162	1162	90	36	1
Greenwich Ave SB Bank St	121	6.40	0.854	0.093		0			1
Greenwich Ave SB @ 7th Ave & 11th St	144	13.40	0.854	0.093	1141	1141	90	67	1
Greenwich Ave SB Perry St	251	6.40	0.854	0.093		0			1
Greenwich Ave SB Charles St	256	13.40	0.854	0.093	1169	1169	90	36	1
Greenwich Ave SB 10th St	256	13.40	0.854	0.093	1169	1169	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1517	21.40	0.854	0.093	4299	1075	90	40	4
7th Ave SB 13th St	1540	21.40	0.854	0.093	4437	1109	90	43	4
7th Ave SB 12th St	1594	21.40	0.854	0.093	4955	1239	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1478	21.40	0.854	0.093	4342	1086	90	47	4
7th Ave SB Perry St	1433	21.40	0.854	0.093	4332	1083	90	43	4
7th Ave SB Charles St	1477	21.40	0.854	0.093	4619	1155	90	31	4
7th Ave SB 10th St	1477	21.40	0.854	0.093	4619	1155	90	31	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	213	21.40	0.841	0.056	1531	1531	90	66	1
11th St WB Waverly Pl	213	18.50	0.841	0.056		0			1
11th St WB W4th Ave	213	21.40	0.841	0.056	1531	1531	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	102	21.40	0.841	0.056	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	76	18.50	0.841	0.056		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: PM10 EX 2007 Peak 5:00 -6:00 PM

Location	No Build 5:00-6:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	261	10.20	0.823	0.028	1524	1524	90	36	1
Greenwich Ave NB Charles St	261	10.20	0.823	0.028	1524	1524	90	36	1
Greenwich Ave NB Perry St	250	6.90	0.823	0.028		0			1
Greenwich Ave NB @ 7th Ave & 11th St	263	10.20	0.823	0.028	2079	1040	90	66	2
Greenwich Ave NB Bank St	282	6.90	0.823	0.028		0			1
Greenwich Ave NB 12th St	292	10.20	0.823	0.028	1235	1235	90	36	1
Greenwich Ave NB Jane St	292	6.90	0.823	0.028		0			1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	127	5.30	0.813	0.002		0			1
Greenwich Ave SB 12th St	127	9.40	0.813	0.002	1177	1177	90	36	1
Greenwich Ave SB Bank St	169	5.30	0.813	0.002		0			1
Greenwich Ave SB @ 7th Ave & 11th St	189	9.40	0.813	0.002	1234	1234	90	67	1
Greenwich Ave SB Perry St	328	5.30	0.813	0.002		0	90		1
Greenwich Ave SB Charles St	359	9.40	0.813	0.002	1267	1267	90	36	1
Greenwich Ave SB 10th St	359	9.40	0.813	0.002	1267	1267	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1575	19.60	0.842	0.056	4660	1165	90	40	4
7th Ave SB 13th St	1650	19.60	0.842	0.056	4768	1192	90	43	4
7th Ave SB 12th St	1732	19.60	0.842	0.056	4790	1198	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1617	19.60	0.842	0.056	4676	1169	90	47	4
7th Ave SB Perry St	1481	19.60	0.842	0.056	4658	1165	90	43	4
7th Ave SB Charles St	1551	19.60	0.842	0.056	4812	1203	90	31	4
7th Ave SB 10th St	1551	19.60	0.842	0.056	4812	1203	90	31	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	216	19.60	0.821	0.011	1546	1546	90	66	1
11th St WB Waverly Pl	216	17.60	0.821	0.011		0	90		1
11th St WB W4th Ave	216	19.60	0.821	0.011	1546	1546	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	111	19.60	0.821	0.011	1413	1413	90	65	1
Perry Street EB Greenwich Avenue	48	17.60	0.821	0.011		0	90		1

Traffic Data Matrix

Scenario: PM10 No Build 2010 Peak 8:00 -9:00 AM

Location	Input				Input		Input		# Lanes
	No Build 8:00-9:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	
Street	Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	187	9.80	0.784	0.046	1359	1359	90	36	1
Greenwich Ave NB Charles St	187	14.80	0.784	0.046	1359	1359	90	36	1
Greenwich Ave NB Perry St	167	14.90	0.784	0.046		0			1
Greenwich Ave NB @ 7th Ave & 11th St	232	14.90	0.784	0.046	2033	1017	90	66	2
Greenwich Ave NB Bank St	269	9.60	0.784	0.046		0			1
Greenwich Ave NB 12th St	275	9.60	0.784	0.046	1113	1113	90	36	1
Greenwich Ave NB Jane St	275	9.60	0.784	0.046		0			1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	97	8.10	0.816	0.087		0			1
Greenwich Ave SB 12th St	97	14.30	0.816	0.087	1162	1162	90	36	1
Greenwich Ave SB Bank St	123	7.40	0.816	0.087		0			1
Greenwich Ave SB @ 7th Ave & 11th St	146	13.20	0.816	0.087	1141	1141	90	67	1
Greenwich Ave SB Perry St	255	7.40	0.816	0.087		0			1
Greenwich Ave SB Charles St	260	17.10	0.816	0.087	1169	1169	90	36	1
Greenwich Ave SB 10th St	260	10.60	0.816	0.087	1169	1169	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1544	19.40	0.816	0.087	4299	1075	90	40	4
7th Ave SB 13th St	1567	17.30	0.816	0.087	4437	1109	90	43	4
7th Ave SB 12th St	1622	16.80	0.816	0.087	4955	1239	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1504	20.00	0.816	0.087	4342	1086	90	47	4
7th Ave SB Perry St	1459	23.20	0.816	0.087	4332	1083	90	43	4
7th Ave SB Charles St	1504	23.60	0.816	0.087	4619	1155	90	31	4
7th Ave SB 10th St	1504	24.10	0.816	0.087	4619	1155	90	31	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	217	20.00	0.801	0.053	1531	1531	90	66	1
11th St WB Waverly Pl	96	18.10	0.801	0.053		0			1
11th St WB W4th Ave	96	20.00	0.801	0.053	1531	1531	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	104	20.00	0.801	0.053	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	70	18.10	0.801	0.053		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: PM10 No Build 2010 Peak 5:00 -6:00 PM

Location	No Build 5:00-6:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB									
Greenwich Ave NB 10th St	265	11.20	0.788	0.026	1524	1524	90	36	1
Greenwich Ave NB Charles St	265	10.40	0.788	0.026	1524	1524	90	36	1
Greenwich Ave NB Perry St	254	3.60	0.788	0.026		0			1
Greenwich Ave NB @ 7th Ave & 11th St	267	3.60	0.788	0.026	2033	1017	90	66	2
Greenwich Ave NB Bank St	287	12.20	0.788	0.026		0			1
Greenwich Ave NB 12th St	297	12.20	0.788	0.026	1113	1113	90	36	1
Greenwich Ave NB Jane St	297	12.20	0.788	0.026		0			1
Greenwich Avenue SB									
Greenwich Ave SB Jane St	129	5.70	0.775	0.002	1177	1177			1
Greenwich Ave SB 12th St	129	10.90	0.775	0.002	1177	1177	90	36	1
Greenwich Ave SB Bank St	172	6.90	0.775	0.002		0			1
Greenwich Ave SB @ 7th Ave & 11th St	192	11.70	0.775	0.002	1141	1141	90	67	1
Greenwich Ave SB Perry St	333	6.90	0.775	0.002		0			1
Greenwich Ave SB Charles St	364	11.70	0.775	0.002	1169	1169	90	36	1
Greenwich Ave SB 10th St	364	7.60	0.775	0.002	1169	1169	90	36	1
7th Avenue SB									
7th Ave SB 14th St	1604	17.70	0.801	0.053	4660	1165	90	40	4
7th Ave SB 13th St	1679	16.00	0.801	0.053	4768	1192	90	43	4
7th Ave SB 12th St	1762	12.70	0.801	0.053	4955	1239	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1645	16.10	0.801	0.053	4342	1086	90	47	4
7th Ave SB Perry St	1507	21.60	0.801	0.053	4332	1083	90	43	4
7th Ave SB Charles St	1578	24.40	0.801	0.053	4619	1155	90	31	4
7th Ave SB 10th St	1578	7.60	0.801	0.053	4619	1155	90	31	4
11th St Westbound									
11th St WB Greenwich & 7th Ave	219	16.10	0.780	0.011	1531	1531	90	66	1
11th St WB Waverly Pl	170	16.10	0.780	0.011		0			1
11th St WB W4th Ave	170	16.10	0.780	0.011	1531	1531	90	66	1
Perry Street Eastbound									
Perry Street EB 7th Avenue	114	16.10	0.780	0.011	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	44	16.10	0.780	0.011		0			1

Greenwich Ave												
Traffic Data Matrix												
Scenario: PM10 Build 2010 Peak 8:00 -9:00 AM												
					Input			Input		Input		
Location	Build 8:00-9:00	TOTAL	TOTAL	Build 8:00-9:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	Gen Truck	Gen Empty Car	Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB												
Greenwich Ave NB 10th St	187	0	2	189	9.80	0.783	0.046	1335	1335	90	36	1
Greenwich Ave NB Charles St	187	0	2	189	14.70	0.783	0.046	1335	1335	90	36	1
Greenwich Ave NB Perry St	167	0	2	169	15.10	0.783	0.046					1
Greenwich Ave NB @ 7th Ave & 11th St	232	0	2	234	15.10	0.784	0.046	2842	1421	90	66	2
Greenwich Ave NB Bank St	269	0	0	269	9.60	0.784	0.046					1
Greenwich Ave NB 12th St	275	0	0	275	9.60	0.784	0.046	1113	1113	90	36	1
Greenwich Ave NB Jane St	275	0	0	275	9.60	0.784	0.046					1
Greenwich Avenue SB												
Greenwich Ave SB Jane St	97	0	2	99	8.10	0.815	0.085					1
Greenwich Ave SB 12th St	97	0	2	99	14.30	0.815	0.085	1162	1162	90	36	1
Greenwich Ave SB Bank St	123	0	2	125	6.90	0.815	0.086					1
Greenwich Ave SB @ 7th Ave & 11th St	146	0	2	148	11.80	0.815	0.086	1141	1141	90	67	1
Greenwich Ave SB Perry St	255	0	0	0	7.40							1
Greenwich Ave SB Charles St	260	0	0	242	17.10	0.876	0.093	1146	1146	90	36	1
Greenwich Ave SB 10th St	260	0	0	242	10.60	0.876	0.093	1146	1146	90	36	1
7th Avenue SB												
7th Ave SB 14th St	1544	3	4	1551	19.30	0.816	0.089	4299	1075	90	40	4
7th Ave SB 13th St	1567	3	4	1574	17.20	0.816	0.089	4437	1109	90	43	4
7th Ave SB 12th St	1622	3	4	1629	16.40	0.816	0.089	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1504	3	4	1511	19.50	0.816	0.089	4331	1083	90	47	4
7th Ave SB Perry St	1459	3	0	1462	18.30	0.816	0.089	4332	1083	90	43	4
7th Ave SB Charles St	1504	3	0	1507	23.60	0.816	0.089	4619	1155	90	31	4
7th Ave SB 10th St	1504	3	0	1507	24.10	0.816	0.089			90	30	4
11th St Westbound												
11th St WB Greenwich & 7th Ave	217	0	0	217	19.50	0.801	0.053	1531	1531	90	66	1
11th St WB Waverly Pl	96	0	0	96	17.70	0.801	0.053					1
11th St WB W4th Ave	96	0	0	96	19.50	0.801	0.053	1531	1531	90	66	1
Perry Street Eastbound												
Perry Street EB 7th Avenue	104	0	0	104	19.50	0.801	0.053	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	70	0	0	307	17.70	0.183	0.012		0			1

Greenwich Ave												
Traffic Data Matrix												
Scenario: PM10 Build 2010 Peak 5:00 -6:00 PM												
Location	No Build 5:00-6:00	Gen. Truck	Gen. Car	Build 5:00-6:00	Build FF Speed	PM10	PM10 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume			Volume	mph		EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB												
Greenwich Ave NB 10th St	265	0	2	267	9.80	0.788	0.026	1335	1335	90	36	1
Greenwich Ave NB Charles St	265	0	2	267	14.70	0.788	0.026	1335	1335	90	36	1
Greenwich Ave NB Perry St	254	0	2	256	15.10	0.788	0.026		0			1
Greenwich Ave NB @ 7th Ave & 11th St	267	0	2	269	15.10	0.788	0.026	2842	1421	90	66	2
Greenwich Ave NB Bank St	287	0	0	287	9.60	0.788	0.026		0			1
Greenwich Ave NB 12th St	297	0	0	297	9.60	0.788	0.026	1113	1113	90	36	1
Greenwich Ave NB Jane St	297	0	0	297	9.60	0.788	0.026		0			1
Greenwich Avenue SB												
Greenwich Ave SB Jane St	129	0	2	131	8.10	0.775	0.002		0			1
Greenwich Ave SB 12th St	129	0	2	131	14.30	0.775	0.002	1162	1162	90	36	1
Greenwich Ave SB Bank St	172	0	2	174	6.90	0.775	0.002		0			1
Greenwich Ave SB @ 7th Ave & 11th St	192	0	2	194	11.80	0.775	0.002	1141	1141	90	67	1
Greenwich Ave SB Perry St	333	0	0	0	7.40				0			1
Greenwich Ave SB Charles St	364	0	0	364	17.10	0.775	0.002	1146	1146	90	36	1
Greenwich Ave SB 10th St	364	0	0	364	10.60	0.775	0.002	1146	1146	90	36	1
7th Avenue SB												
7th Ave SB 14th St	1604	3	4	1611	19.30	0.801	0.055	4299	1075	90	40	4
7th Ave SB 13th St	1679	3	4	1686	17.20	0.801	0.055	4437	1109	90	43	4
7th Ave SB 12th St	1762	3	4	1769	16.40	0.801	0.055	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1645	3	4	1652	19.50	0.801	0.055	4331	1083	90	47	4
7th Ave SB Perry St	1507	3	0	1510	18.30	0.801	0.055	4332	1083	90	43	4
7th Ave SB Charles St	1578	3	0	1581	23.60	0.801	0.055	4619	1155	90	31	4
7th Ave SB 10th St	1578	3	0	1581	24.10	0.801	0.055		0	90	30	4
11th St Westbound												
11th St WB Greenwich & 7th Ave	219	0	0	219	19.50	0.780	0.011	1531	1531	90	66	1
11th St WB Waverly Pl	170	0	0	170	17.70	0.780	0.011		0			1
11th St WB W4th Ave	170	0	0	170	19.50	0.780	0.011	1531	1531	90	66	1
Perry Street Eastbound												
Perry Street EB 7th Avenue	114	0	0	114	19.50	0.780	0.011	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	44	0	0	44	17.70	0.780	0.011		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: PM2.5 No Build 2010 Peak 8:00 -9:00 AM

Location	Input			Input			Input			# Lanes
	No Build 8:00-9:00	Build FF Speed	PM2.5	PM2.5	PM2.5 Idle	SFR	SFR	Cycle	Red Time	
Street	Volume	mph	EF Annual	EF 24-Hr	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB										
Greenwich Ave NB 10th St	187	9.80	0.019	0.105	0.043	1359	1359	90	36	1
Greenwich Ave NB Charles St	187	14.80	0.019	0.105	0.043	1359	1359	90	36	1
Greenwich Ave NB Perry St	167	14.90	0.019	0.105	0.043		0			1
Greenwich Ave NB @ 7th Ave & 11th St	232	14.90	0.019	0.105	0.043	2033	1017	90	66	2
Greenwich Ave NB Bank St	269	9.60	0.019	0.105	0.043		0			1
Greenwich Ave NB 12th St	275	9.60	0.019	0.105	0.043	1113	1113	90	36	1
Greenwich Ave NB Jane St	275	9.60	0.019	0.105	0.043		0			1
Greenwich Avenue SB										
Greenwich Ave SB Jane St	97	8.10	0.048	0.134	0.080		0			1
Greenwich Ave SB 12th St	97	14.30	0.048	0.134	0.080	1162	1162	90	36	1
Greenwich Ave SB Bank St	123	7.40	0.048	0.134	0.080		0			1
Greenwich Ave SB @ 7th Ave & 11th St	146	13.20	0.048	0.134	0.080	1141	1141	90	67	1
Greenwich Ave SB Perry St	255	7.40	0.048	0.134	0.080		0			1
Greenwich Ave SB Charles St	260	17.10	0.048	0.134	0.080	1169	1169	90	36	1
Greenwich Ave SB 10th St	260	10.60	0.048	0.134	0.080	1169	1169	90	36	1
7th Avenue SB										
7th Ave SB 14th St	1544	19.40	0.048	0.134	0.080	4299	1075	90	40	4
7th Ave SB 13th St	1567	17.30	0.048	0.134	0.080	4437	1109	90	43	4
7th Ave SB 12th St	1622	16.80	0.048	0.134	0.080	4955	1239	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1504	20.00	0.048	0.134	0.080	4342	1086	90	47	4
7th Ave SB Perry St	1459	23.20	0.048	0.134	0.080	4332	1083	90	43	4
7th Ave SB Charles St	1504	23.60	0.048	0.134	0.080	4619	1155	90	31	4
7th Ave SB 10th St	1504	24.10	0.048	0.134	0.080	4619	1155	90	31	4
11th St Westbound										
11th St WB Greenwich & 7th Ave	217	20.00	0.035	0.121	0.049	1531	1531	90	66	1
11th St WB Waverly Pl	96	18.10	0.035	0.121	0.049		0			1
11th St WB W4th Ave	96	20.00	0.035	0.121	0.049	1531	1531	90	66	1
Perry Street Eastbound										
Perry Street EB 7th Avenue	104	20.00	0.035	0.121	0.049	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	70	18.10	0.035	0.121	0.049		0			1

Greenwich Ave
Traffic Data Matrix
Scenario: PM2.5 No Build 2010 Peak 5:00 -6:00 PM

Location	No Build 5:00-6:00	Build FF Speed	PM2.5	PM2.5	PM2.5 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	mph	EF Annual	EF 24-Hr	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB										
Greenwich Ave NB 10th St	265	11.20	0.023	0.109	0.024	1524	1524	90	36	1
Greenwich Ave NB Charles St	265	10.40	0.023	0.109	0.024	1524	1524	90	36	1
Greenwich Ave NB Perry St	254	3.60	0.023	0.109	0.024		0			1
Greenwich Ave NB @ 7th Ave & 11th St	267	3.60	0.023	0.109	0.024	2033	1017	90	66	2
Greenwich Ave NB Bank St	287	12.20	0.023	0.109	0.024		0			1
Greenwich Ave NB 12th St	297	12.20	0.023	0.109	0.024	1113	1113	90	36	1
Greenwich Ave NB Jane St	297	12.20	0.023	0.109	0.024		0			1
Greenwich Avenue SB										
Greenwich Ave SB Jane St	129	5.70	0.012	0.098	0.002	1177	1177			1
Greenwich Ave SB 12th St	129	10.90	0.012	0.098	0.002	1177	1177	90	36	1
Greenwich Ave SB Bank St	172	6.90	0.012	0.098	0.002		0			1
Greenwich Ave SB @ 7th Ave & 11th St	192	11.70	0.012	0.098	0.002	1141	1141	90	67	1
Greenwich Ave SB Perry St	333	6.90	0.012	0.098	0.002		0			1
Greenwich Ave SB Charles St	364	11.70	0.012	0.098	0.002	1169	1169	90	36	1
Greenwich Ave SB 10th St	364	7.60	0.012	0.098	0.002	1169	1169	90	36	1
7th Avenue SB										
7th Ave SB 14th St	1604	17.70	0.035	0.121	0.049	4660	1165	90	40	4
7th Ave SB 13th St	1679	16.00	0.035	0.121	0.049	4768	1192	90	43	4
7th Ave SB 12th St	1762	12.70	0.035	0.121	0.049	4955	1239	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1645	16.10	0.035	0.121	0.049	4342	1086	90	47	4
7th Ave SB Perry St	1507	21.60	0.035	0.121	0.049	4332	1083	90	43	4
7th Ave SB Charles St	1578	24.40	0.035	0.121	0.049	4619	1155	90	31	4
7th Ave SB 10th St	1578	7.60	0.035	0.121	0.049	4619	1155	90	31	4
11th St Westbound										
11th St WB Greenwich & 7th Ave	219	16.10	0.016	0.102	0.010	1531	1531	90	66	1
11th St WB Waverly Pl	170	16.10	0.016	0.102	0.010		0			1
11th St WB W4th Ave	170	16.10	0.016	0.102	0.010	1531	1531	90	66	1
Perry Street Eastbound										
Perry Street EB 7th Avenue	114	16.10	0.016	0.102	0.010	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	44	16.10	0.016	0.102	0.010		0			1

Greenwich Ave													
Traffic Data Matrix													
Scenario: PM2.5 Build 2010 Peak 8:00 -9:00 AM													
					Input				Input		Input		
Location	Build 8:00-9:00	TOTAL	TOTAL	Build 8:00-9:00	Build FF Speed	PM2.5	PM2.5	PM2.5 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume	Gen Truck	Gen Empty Car	Volume	mph	EF Annual	EF 24-Hr	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB													
Greenwich Ave NB 10th St	187	0	2	189	9.80	0.019	0.104	0.042	1335	1335	90	36	1
Greenwich Ave NB Charles St	187	0	2	189	14.70	0.019	0.105	0.042	1335	1335	90	36	1
Greenwich Ave NB Perry St	167	0	2	169	15.10	0.019	0.105	0.042					1
Greenwich Ave NB @ 7th Ave & 11th St	232	0	2	234	15.10	0.019	0.105	0.042	2842	1421	90	66	2
Greenwich Ave NB Bank St	269	0	0	269	9.60	0.019	0.105	0.043					1
Greenwich Ave NB 12th St	275	0	0	275	9.60	0.019	0.105	0.043	1113	1113	90	36	1
Greenwich Ave NB Jane St	275	0	0	275	9.60	0.019	0.105	0.043					1
Greenwich Avenue SB													
Greenwich Ave SB Jane St	97	0	2	99	8.10	0.048	0.132	0.078					1
Greenwich Ave SB 12th St	97	0	2	99	14.30	0.048	0.134	0.078	1162	1162	90	36	1
Greenwich Ave SB Bank St	123	0	2	125	6.90	0.048	0.134	0.079					1
Greenwich Ave SB @ 7th Ave & 11th St	146	0	2	148	11.80	0.048	0.134	0.079	1141	1141	90	67	1
Greenwich Ave SB Perry St	255	0	0	0	7.40								1
Greenwich Ave SB Charles St	260	0	0	242	17.10	0.052	0.144	0.086	1146	1146	90	36	1
Greenwich Ave SB 10th St	260	0	0	242	10.60	0.052	0.144	0.086	1146	1146	90	36	1
7th Avenue SB													
7th Ave SB 14th St	1544	3	4	1551	19.30	0.048	0.136	0.082	4299	1075	90	40	4
7th Ave SB 13th St	1567	3	4	1574	17.20	0.048	0.136	0.082	4437	1109	90	43	4
7th Ave SB 12th St	1622	3	4	1629	16.40	0.048	0.136	0.082	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1504	3	4	1511	19.50	0.048	0.136	0.082	4331	1083	90	47	4
7th Ave SB Perry St	1459	3	0	1462	18.30	0.049	0.137	0.082	4332	1083	90	43	4
7th Ave SB Charles St	1504	3	0	1507	23.60	0.049	0.136	0.082	4619	1155	90	31	4
7th Ave SB 10th St	1504	3	0	1507	24.10	0.049	0.136	0.082			90	30	4
11th St Westbound													
11th St WB Greenwich & 7th Ave	217	0	0	217	19.50	0.035	0.121	0.049	1531	1531	90	66	1
11th St WB Waverly Pl	96	0	0	96	17.70	0.035	0.121	0.049					1
11th St WB W4th Ave	96	0	0	96	19.50	0.035	0.121	0.049	1531	1531	90	66	1
Perry Street Eastbound													
Perry Street EB 7th Avenue	104	0	0	104	19.50	0.035	0.121	0.049	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	70	0	0	307	17.70	0.008	0.028	0.011		0			1

Greenwich Ave													
Traffic Data Matrix													
Scenario: PM2.5 Build 2010 Peak 5:00 -6:00 PM													
Location	Build 5:00-6:00	Gen. Truck	Gen. Car	Build 5:00-6:00	Build FF Speed	PM2.5	PM2.5	PM2.5 Idle	SFR	SFR	Cycle	Red Time	# Lanes
Street	Volume			Volume	mph	EF Annual	EF 24-Hr	EF	Total	per lane	(sec)	(sec)	
Greenwich Avenue NB													
Greenwich Ave NB 10th St	265	0	2	267	9.80	0.023	0.109	0.024	1335	1335	90	36	1
Greenwich Ave NB Charles St	265	0	2	267	14.70	0.023	0.109	0.024	1335	1335	90	36	1
Greenwich Ave NB Perry St	254	0	2	256	15.10	0.023	0.109	0.024		0			1
Greenwich Ave NB @ 7th Ave & 11th St	267	0	2	269	15.10	0.023	0.109	0.024	2842	1421	90	66	2
Greenwich Ave NB Bank St	287	0	0	287	9.60	0.023	0.109	0.024		0			1
Greenwich Ave NB 12th St	297	0	0	297	9.60	0.023	0.109	0.024	1113	1113	90	36	1
Greenwich Ave NB Jane St	297	0	0	297	9.60	0.023	0.109	0.024		0			1
Greenwich Avenue SB													
Greenwich Ave SB Jane St	129	0	2	131	8.10	0.012	0.098	0.002		0			1
Greenwich Ave SB 12th St	129	0	2	131	14.30	0.012	0.098	0.002	1162	1162	90	36	1
Greenwich Ave SB Bank St	172	0	2	174	6.90	0.012	0.098	0.002		0			1
Greenwich Ave SB @ 7th Ave & 11th St	192	0	2	194	11.80	0.012	0.098	0.002	1141	1141	90	67	1
Greenwich Ave SB Perry St	333	0	0	0	7.40					0			1
Greenwich Ave SB Charles St	364	0	0	364	17.10	0.012	0.098	0.002	1146	1146	90	36	1
Greenwich Ave SB 10th St	364	0	0	364	10.60	0.012	0.098	0.002	1146	1146	90	36	1
7th Avenue SB													
7th Ave SB 14th St	1604	3	4	1611	19.30	0.035	0.123	0.050	4299	1075	90	40	4
7th Ave SB 13th St	1679	3	4	1686	17.20	0.035	0.123	0.050	4437	1109	90	43	4
7th Ave SB 12th St	1762	3	4	1769	16.40	0.035	0.123	0.050	4476	1119	90	47	4
7th Ave SB @ Greenwich Ave & 11th St	1645	3	4	1652	19.50	0.035	0.123	0.050	4331	1083	90	47	4
7th Ave SB Perry St	1507	3	0	1510	18.30	0.035	0.123	0.051	4332	1083	90	43	4
7th Ave SB Charles St	1578	3	0	1581	23.60	0.035	0.123	0.050	4619	1155	90	31	4
7th Ave SB 10th St	1578	3	0	1581	24.10	0.035	0.123	0.050	4619	1155	90	30	4
11th St Westbound													
11th St WB Greenwich & 7th Ave	219	0	0	219	19.50	0.016	0.102	0.010	1531	1531	90	66	1
11th St WB Waverly Pl	170	0	0	170	17.70	0.016	0.102	0.010		0			1
11th St WB W4th Ave	170	0	0	170	19.50	0.016	0.102	0.010	1531	1531	90	66	1
Perry Street Eastbound													
Perry Street EB 7th Avenue	114	0	0	114	19.50	0.016	0.102	0.010	1370	1370	90	65	1
Perry Street EB Greenwich Avenue	44	0	0	44	17.70	0.016	0.102	0.010		0			1

Stationary Source Analysis

Emission Sheets

CO Emission Rates (Alt P1)

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month mon	Working Hours per Year yr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.066	0.3400	8	160	8760	0.1039	0.0098	398.55	2.6082E-04	2.4541E-05
7th Avenue	0.099	0.2900	8	160	8760	0.1559	0.0083	62.89	2.4793E-03	1.3265E-04
Fan Facility	0.103	0.4030	8	160	8760	0.1622	0.0116	286.23	5.6675E-04	4.0502E-05

80

NO₂ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.091	0.5240	8	160	8760	0.1436	0.0151	398.55	3.6040E-04	3.7823E-05
7th Avenue	0.185	0.5407	8	160	8760	0.2915	0.0156	62.89	4.6345E-03	2.4734E-04
Fan Facility	0.148	1.5620	8	160	8760	0.2334	0.0449	286.23	8.1547E-04	1.5698E-04

Note: Use 0.38 for NO₂/NO_x conversion factor consistent with the DEIS analysis.

PM₁₀ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.024	0.1160	8	480	8760	0.0126	0.0033	398.55	3.1614E-05	8.3727E-06
7th Avenue	0.004	0.0110	8	480	8760	0.0021	0.0003	62.89	3.3391E-05	5.03153E-06
Fan Facility	0.052	0.1640	8	480	8760	0.0273	0.0047	286.23	9.5376E-05	0.00002

PM_{2.5} Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.005	0.0274	8	480	8760	0.0028	0.0008	398.55	6.9812E-06	1.98003E-06
7th Avenue	0.004	0.0102	8	480	8760	0.0021	0.0003	62.89	3.3391E-05	4.68154E-06
Fan Facility	0.011	0.0366	8	480	8760	0.0058	0.0011	286.23	2.0303E-05	3.67687E-06

Emergency Vent Plant for the 8th and 7th Ave Subway
Construction Emission Analysis
Alt P1- Greenwich Ave - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1-Phase B Excavate NB Lane												
Excavators	1	200	118	118	2/26/2010	4/29/2010	2	160	0.7051	3.5658	0.0280	0.0272
Cherry Pickers	1	165	97	97	2/26/2010	3/11/2010	1	160	0.8176	3.6550	0.0412	0.0400
Compressors (total: electric and/or diesel)	1	80	47	47	2/19/2010	3/1/2010	1	160	2.2315	4.2521	0.0575	0.0558
Front End Loaders	1	400	84	84	2/26/2010	4/29/2010	2	160	0.7948	3.8645	0.0280	0.0272
Construction Equipment Total	4											
Stage 2-Phase C Excavate SB Lane												
Excavators	1	200	118	118	6/10/2010	9/2/2010	3	160	0.7051	3.5658	0.0280	0.0272
Cherry Pickers	1	165	97	97	6/17/2010	7/1/2010	1	160	0.8176	3.6550	0.0412	0.0400
Compressors (total: electric and/or diesel)	3	80	47	142	6/10/2010	9/2/2010	3	40	2.2315	4.2521	0.0575	0.0558
Front End Loaders	1	400	84	84	6/10/2010	9/2/2010	3	160	0.7948	3.8645	0.0280	0.0272
Construction Equipment Total	5											
Stage 2-Phase D Construct Plenum												
Cherry Pickers	1	165	97	97	9/3/2010	11/30/2010	2	160	0.8176	3.6550	0.0412	0.0400
Front End Loaders	1	400	84	84	9/3/2010	11/30/2010	2	160	0.7948	3.8645	0.0280	0.0272
Construction Equipment Total	1											
Stage 2-Phase C Backfill & Restore Traffic Lanes												
Excavators	1	200	118	118	11/30/2010	12/20/2010	1	160	0.7051	3.5658	0.0280	0.0272
Paver	1	150	89	89	12/1/2010	2/4/2011	2	160	0.8176	3.6550	0.0412	0.0400
Ballast Compactor	2	80	34	69	11/30/2010	12/20/2010	1	160	2.2315	4.2521	0.0575	0.0558
Front End Loaders	1	400	84	84	12/1/2010	2/4/2011	2	160	0.7948	3.8645	0.0280	0.0272
Construction Equipment Total	4											

Emergency Vent Plant for the 8th and 7th Ave Subway
 Construction Emission Analysis
 Alt P1- Greenwich Ave - Equipment/Activity

2014- 2020 Pollutant Emission Factors ⁽³⁾				Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.0000	0.0000	0.0000	0.0000	0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.0000	0.0000	0.0000	0.0000	2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.0000	0.0000	0.0000	0.0000	0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
								0.047	0.172	0.002	0.002
0.0000	0.0000	0.0000	0.0000	0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.0000	0.0000	0.0000	0.0000	2.2315	4.2521	0.0575	0.0558	0.014	0.027	0.000	0.000
0.0000	0.0000	0.0000	0.0000	0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
								0.043	0.164	0.002	0.002
0.0000	0.0000	0.0000	0.0000	0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
								0.014	0.063	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
0.0000	0.0000	0.0000	0.0000	2.2315	4.2521	0.0575	0.0558	0.027	0.052	0.001	0.001
0.0000	0.0000	0.0000	0.0000	0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
								0.055	0.183	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/idle time Min/hour	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Truck Trips per Month	in Site	Material (tons)												
Stage 1-Phase B Excavate NB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				2/26/2010	4/29/2010	2	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		120		1,265	2/26/2010	4/29/2010	2	0	0.0000	0.0000	0.0061	0.0019			0.002	0.001
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		2/26/2010	4/29/2010	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		2/26/2010	4/29/2010	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	120	3.0		2/26/2010	4/29/2010	2	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton		120		1,265	2/26/2010	4/29/2010	2	0	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.021	0.003
Stage 2-Phase C Excavate SB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				6/10/2010	9/2/2010	3	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		120		1,265	6/10/2010	9/2/2010	3	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		6/10/2010	9/2/2010	3	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		6/10/2010	9/2/2010	3	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	120	3.0		6/10/2010	9/2/2010	3	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton		120		1,265	6/10/2010	9/2/2010	3	0	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 2-Phase D Construct Plenum																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					9/3/2010	11/30/2010	2	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					9/3/2010	11/30/2010	2	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		9/3/2010	11/30/2010	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		9/3/2010	11/30/2010	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		9/3/2010	11/30/2010	2	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					9/3/2010	11/30/2010	2	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 2-Phase C Backfill & Restore Traffic Lanes																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					11/30/2010	12/20/2010	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					11/30/2010	12/20/2010	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		11/30/2010	12/20/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		11/30/2010	12/20/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		11/30/2010	12/20/2010	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					11/30/2010	12/20/2010	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt P1 - 7th Ave - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1 - Phase C Install Mini-Piles																
Front End Loaders	1	400	84	84	2/8/2010	3/19/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Pile Driving Rigs	1	350	207	207	2/8/2010	3/19/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Work Train (Diesel Locomotive)	2	312	184	368	2/8/2010	3/19/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 1 - Phase D Jet Grout																
Front End Loaders	1	400	84	84	3/22/2010	5/1/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Drill Rig	1	250	108	108	3/22/2010	5/1/2010	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Jet Grout Rig	1	300	177	177	3/22/2010	5/1/2010	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Work Train (Diesel Locomotive)	2	312	184	368	3/22/2010	5/1/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	5															
Stage 3 - Phase B Secant Piles																
Drill Rig	1	250	108	108	2/10/2011	4/15/2011	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	2/10/2011	4/15/2011	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	2/10/2011	4/15/2011	2	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	2/10/2011	4/15/2011	2	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 3 - Phase C Temp Sewer																
Front End Loaders	1	400	84	84	4/18/2011	5/13/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	4/18/2011	5/13/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase D Tunnel																
Front End Loaders	1	400	84	84	6/14/2011	10/19/2011	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Mini Excavator	1	120	71	71	6/14/2011	10/19/2011	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase E Manifold																
Front End Loaders	1	400	84	84	10/20/2011	7/11/2012	9	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	10/20/2011	7/11/2012	9	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Electric Pumps (Water & Concrete)	1	100	0	0	10/20/2011	7/11/2012	9	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 3 - Phase F New Sewer																
Front End Loaders	1	400	84	84	5/16/2011	6/1/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	5/16/2011	6/1/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	5/16/2011	6/1/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Electric Pumps (Water & Concrete)	1	100	0	0	5/16/2011	6/1/2011	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 3 - Phase G Reconstruct Avenue																
Front End Loaders	1	400	84	84	5/31/2011	6/13/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	5/31/2011	6/13/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Ballast Compactor	1	80	34	34	5/31/2011	6/13/2011	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Paver	1	150	89	89	5/31/2011	6/13/2011	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt P1 - 7th Ave - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.029	0.141	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.052	0.251	0.002	0.002
				0.092	0.449	0.003	0.003
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.022	0.111	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.052	0.251	0.002	0.002
				0.099	0.487	0.004	0.004
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.058	0.223	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
				0.026	0.131	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.010	0.046	0.001	0.000
				0.022	0.103	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.000	0.000	0.000	0.000
				0.025	0.124	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.000	0.000	0.000	0.000
				0.040	0.199	0.002	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.026	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
				0.053	0.214	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽¹⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours/day	Trucks per Month	in Site	Material (tons)												
Stage 1 - Phase C Install Mini-Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					2/8/2010	3/19/2010	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton	8			5	2/8/2010	3/19/2010	1	160	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		2/8/2010	3/19/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		2/8/2010	3/19/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		2/8/2010	3/19/2010	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8			5	2/8/2010	3/19/2010	1	160	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 1 - Phase D Jet Grout																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					3/22/2010	5/1/2010	2	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					3/22/2010	5/1/2010	2	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile			0.0		3/22/2010	5/1/2010	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile			0.0		3/22/2010	5/1/2010	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			0.0		3/22/2010	5/1/2010	2	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					3/22/2010	5/1/2010	2	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase B Secant Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				2/10/2011	4/15/2011	2	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				675	2/10/2011	4/15/2011	2	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/10/2011	4/15/2011	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/10/2011	4/15/2011	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		2/10/2011	4/15/2011	2	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton				675	2/10/2011	4/15/2011	2	0	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 3 - Phase C Temp Sewer																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					4/18/2011	5/13/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					4/18/2011	5/13/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					4/18/2011	5/13/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					4/18/2011	5/13/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					4/18/2011	5/13/2011	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					4/18/2011	5/13/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase D Tunnel																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				6/14/2011	10/19/2011	4	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				1,000	6/14/2011	10/19/2011	4	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/14/2011	10/19/2011	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/14/2011	10/19/2011	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					6/14/2011	10/19/2011	4	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40	3	1,000	6/14/2011	10/19/2011	4	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.019	0.003
Stage 3 - Phase E Manifold																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					10/20/2011	7/11/2012	9	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					10/20/2011	7/11/2012	9	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					10/20/2011	7/11/2012	9	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					10/20/2011	7/11/2012	9	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					10/20/2011	7/11/2012	9	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					10/20/2011	7/11/2012	9	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase F New Sewer																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					5/16/2011	6/1/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					5/16/2011	6/1/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					5/16/2011	6/1/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					5/16/2011	6/1/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		of	of	Min/hour	Material (tons)												
		Hours /day	Trucks per Month	in Site													
Truck Idling, (average per truck), min	g/hour					5/16/2011	6/1/2011	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					5/16/2011	6/1/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase G Reconstruct Avenue																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					5/31/2011	6/13/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					5/31/2011	6/13/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					5/31/2011	6/13/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					5/31/2011	6/13/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					5/31/2011	6/13/2011	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					5/31/2011	6/13/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt P1 - Fan Facility - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1 Phase A Secure St																
Front End Loaders	1	400	84	84	1/31/2010	2/12/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	1															
Stage 2 Phase A Excavation																
Excavators	1	200	118	118	6/9/2010	7/21/2010	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/9/2010	7/21/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	6/9/2010	7/21/2010	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 2 Phase B Install Secant Piles																
Drill Rig	1	250	108	108	6/9/2010	12/17/2010	6	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	6/9/2010	12/17/2010	6	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	6/9/2010	12/17/2010	6	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/9/2010	12/17/2010	6	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 3 Phase A Excavation																
Excavators	1	200	118	118	2/8/2011	3/21/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	2/8/2011	3/21/2011	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	2/8/2011	3/21/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 4 Phase A Construct Facility																
Cherry Pickers	1	165	97	97	7/12/2012	1/17/2013	6	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	7/12/2012	1/17/2013	6	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4 Phase B Install Equipment																
Generator	1	100	59	59	3/1/2013	8/19/2013	5	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	3	165	97	292	3/1/2013	8/19/2013	5	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	3/1/2013	8/19/2013	5	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Material Hoist	1	150	32	32	3/1/2013	8/19/2013	5	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	6															
Stage 4 Phase C Interior Spaces																
Generator	1	100	59	59	1/18/2013	5/23/2013	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	1/18/2013	5/23/2013	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	1/18/2013	5/23/2013	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	1/18/2013	5/23/2013	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt P1 - Fan Facility - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.045	0.167	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.058	0.223	0.002	0.002
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.045	0.167	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.026	0.120	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.023	0.044	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.042	0.188	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.005	0.020	0.000	0.000
				0.082	0.310	0.003	0.003
2.2315	4.2521	0.0575	0.0558	0.023	0.044	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.068	0.200	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Travelled (per hour/idle time Min/hour)	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Trucks	in Site	Material (tons)												
Stage 1 Phase A Secure St																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					1/31/2010	2/12/2010	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					1/31/2010	2/12/2010	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					1/31/2010	2/12/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					1/31/2010	2/12/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		1/31/2010	2/12/2010	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40			1/31/2010	2/12/2010	1	160	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0															0.000	0.000
Stage 2 Phase A Excavation																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			6/9/2010	7/21/2010	1	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				2.050	6/9/2010	7/21/2010	1	0	0.0000	0.0000	0.0061	0.0019			0.006	0.002
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/9/2010	7/21/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/9/2010	7/21/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		6/9/2010	7/21/2010	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		2.050	6/9/2010	7/21/2010	1	160	0.0000	0.0000	0.0042	0.0001			0.004	0.000
Construction Equipment Total	0															0.000	0.000
Stage 2 Phase B Install Secant Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			6/9/2010	12/17/2010	6	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				2.500	6/9/2010	12/17/2010	6	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/9/2010	12/17/2010	6	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/9/2010	12/17/2010	6	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		6/9/2010	12/17/2010	6	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		2.500	6/9/2010	12/17/2010	6	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0															0.000	0.000
Stage 3 Phase A Excavation																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			2/8/2011	3/21/2011	1	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				1.000	2/8/2011	3/21/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.003	0.001
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/8/2011	3/21/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/8/2011	3/21/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		2/8/2011	3/21/2011	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		1.000	2/8/2011	3/21/2011	1	160	0.0000	0.0000	0.0042	0.0001			0.002	0.000
Construction Equipment Total	0															0.000	0.000
Stage 4 Phase A Construct Facility																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			7/12/2012	1/17/2013	6	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				1.000	7/12/2012	1/17/2013	6	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					7/12/2012	1/17/2013	6	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					7/12/2012	1/17/2013	6	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		7/12/2012	1/17/2013	6	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		1.000	7/12/2012	1/17/2013	6	160	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0															0.000	0.000
Stage 4 Phase B Install Equipment																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					3/1/2013	8/19/2013	5	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					3/1/2013	8/19/2013	5	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					3/1/2013	8/19/2013	5	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					3/1/2013	8/19/2013	5	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					3/1/2013	8/19/2013	5	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					3/1/2013	8/19/2013	5	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0															0.000	0.000

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Travelled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		of	Trucks	in Site	Material (tons)												
Stage 4 Phase C Interior Spaces																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					1/18/2013	5/23/2013	4	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					1/18/2013	5/23/2013	4	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					1/18/2013	5/23/2013	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					1/18/2013	5/23/2013	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					1/18/2013	5/23/2013	4	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					1/18/2013	5/23/2013	4	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000

CO Emission Rates (Alt SB5)

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month mon	Working Hours per Year yr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.053	0.0530	8	160	8760	0.0835	0.0015	1128.1	7.3995E-05	1.3515E-06
7th Avenue	0.099	0.2930	8	160	8760	0.1559	0.0084	185.8	8.3919E-04	4.5364E-05
Fan Facility	0.121	0.6950	8	160	8760	0.1906	0.0200	1128.1	1.6893E-04	1.7723E-05

NO₂ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.082	0.0817	8	160	8760	0.1287	0.0024	1128.1	1.1406E-04	2.0834E-06
7th Avenue	0.085	0.4613	8	160	8760	0.1335	0.0133	185.8	7.1832E-04	7.1424E-05
Fan Facility	0.140	0.819	8	160	8760	0.2202	0.0236	1128.1	1.9523E-04	2.0892E-05

Note: Use 0.38 for NO₂/NO_x conversion factor consistent with the DEIS analysis.

PM₁₀ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.002	0.0020	8	480	8760	0.0010	0.0001	1128.1	9.3075E-07	5.1000E-08
7th Avenue	0.022	0.0680	8	480	8760	0.0115	0.0020	185.8	6.2163E-05	1.05282E-05
Fan Facility	0.027	0.1620	8	480	8760	0.0142	0.0047	1128.1	1.2565E-05	0.00000

PM_{2.5} Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.002	0.0019	8	480	8760	0.0010	0.0001	1128.1	9.3075E-07	4.94562E-08
7th Avenue	0.005	0.0190	8	480	8760	0.0026	0.0005	185.8	1.3751E-05	2.93871E-06
Fan Facility	0.008	0.0449	8	480	8760	0.0039	0.0013	1128.1	3.4975E-06	1.14469E-06

Emergency Vent Plant for 8th and 7th Ave Subway Construction Emission Analysis
Alt SB5 - Greenwich - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1-Phase A Excavate NB Lane																
Excavators	1	200	118	118	2/15/2010	6/15/2010	4	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	2/15/2010	6/15/2010	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	2/15/2010	6/15/2010	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	2/15/2010	6/15/2010	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 2-Phase A Excavate SB Lane																
Excavators	1	200	118	118	6/10/2010	9/2/2010	3	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	6/17/2010	7/1/2010	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	3	80	47	142	6/17/2010	7/1/2010	1	40	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/10/2010	9/2/2010	3	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	6															
Stage 2-Phase B Construct Plenum																
Cherry Pickers	1	165	97	97	9/13/2010	12/7/2010	3	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	9/13/2010	12/7/2010	3	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 2-Phase C Backfill & Restore Traffic Lanes																
Excavators	1	200	118	118	12/8/2010	1/25/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Paver	1	150	89	89	12/1/2010	1/25/2011	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Ballast Compactor	1	80	34	34	12/8/2010	1/25/2011	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	12/1/2010	1/25/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															

Emergency Vent Plant for 8th and 7th Ave Subway Construction Emission Analysis
 Alt SB5 - Greenwich - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.047	0.172	0.002	0.002
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.027	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.043	0.164	0.002	0.002
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.014	0.063	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.026	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.041	0.157	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour/idle time Min/hour)	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Truck Trips per Month	in Site	Material (tons)												
Stage 1-Phase A Excavate NB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				2/15/2010	6/15/2010	4	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		127		1,265	2/15/2010	6/15/2010	4	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/15/2010	6/15/2010	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/15/2010	6/15/2010	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	127	3.0		2/15/2010	6/15/2010	4	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	127		1,265	2/15/2010	6/15/2010	4	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 2-Phase A Excavate SB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				6/10/2010	9/2/2010	3	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		127		1,265	6/10/2010	9/2/2010	3	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/10/2010	9/2/2010	3	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/10/2010	9/2/2010	3	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	127	3.0		6/10/2010	9/2/2010	3	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	127		1,265	6/10/2010	9/2/2010	3	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 2-Phase B Construct Plenum																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					9/13/2010	12/7/2010	3	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					9/13/2010	12/7/2010	3	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					9/13/2010	12/7/2010	3	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					9/13/2010	12/7/2010	3	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	127	3.0		9/13/2010	12/7/2010	3	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					9/13/2010	12/7/2010	3	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 2-Phase C Backfill & Restore Traffic Lanes																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					12/8/2010	1/25/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					12/8/2010	1/25/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					12/8/2010	1/25/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					12/8/2010	1/25/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	127	3.0		12/8/2010	1/25/2011	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					12/8/2010	1/25/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th 7th Ave Subway Construction Emission Analysis - Alt SB5 - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1 - Phase B Install Mini-Piles																
Front End Loaders	1	400	84	84	2/15/2010	3/26/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Pile Driving Rigs	1	350	207	207	2/15/2010	3/26/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Work Train (Diesel Locomotive)	2	312	184	368	2/15/2010	3/26/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 1 - Phase C Jet Grout																
Front End Loaders	1	400	84	84	3/29/2010	5/7/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Drill Rig	1	250	108	108	3/29/2010	5/7/2010	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Jet Grout Rig	1	300	177	177	3/29/2010	5/7/2010	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Work Train (Diesel Locomotive)	2	312	184	368	3/29/2010	5/7/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	5															
Stage 3 - Phase A Secant Piles																
Drill Rig	1	250	108	108	1/26/2011	4/4/2011	3	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	1/26/2011	4/4/2011	3	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	1/26/2011	4/4/2011	3	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	1/26/2011	4/4/2011	3	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 3 - Phase B Temp Sewer																
Front End Loaders	1	400	84	84	4/5/2011	5/2/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	4/5/2011	5/2/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase C New Sewer																
Front End Loaders	1	400	84	84	4/30/2011	5/16/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	4/30/2011	5/16/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	4/30/2011	5/16/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 3 - Phase D Reconstruct Avenue																
Front End Loaders	1	400	84	84	5/17/2011	6/1/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	5/17/2011	6/1/2011	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Ballast Compactor	1	80	34	34	5/17/2011	6/1/2011	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Paver	1	150	89	89	5/17/2011	6/1/2011	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 4 - Phase D Tunnel																
Front End Loaders	1	400	84	84	5/3/2012	9/10/2012	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Mini Excavator	1	120	71	71	5/3/2012	9/10/2012	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4 - Phase E Manifold																
Front End Loaders	1	400	84	84	9/11/2012	6/4/2013	9	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	9/11/2012	6/4/2013	9	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															

Emergency Vent Plant for the 8th 7th Ave Subway Construction Emission Analysis - Alt SB5 - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.029	0.141	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.052	0.251	0.002	0.002
				0.092	0.449	0.003	0.003
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.022	0.111	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.052	0.251	0.002	0.002
				0.099	0.487	0.004	0.004
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.058	0.223	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
				0.026	0.131	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
				0.040	0.199	0.002	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.026	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
				0.053	0.214	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.010	0.046	0.001	0.000
				0.022	0.103	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
				0.025	0.124	0.001	0.001

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽¹⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/Idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours/day	Trucks per Month	in Site	Material (tons)												
Stage 1 - Phase B Install Mini-Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					2/15/2010	3/26/2010	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton	8			5	2/15/2010	3/26/2010	1	160	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/15/2010	3/26/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/15/2010	3/26/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		2/15/2010	3/26/2010	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton				5	2/15/2010	3/26/2010	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 1 - Phase C Jet Grout																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					3/29/2010	5/7/2010	2	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					3/29/2010	5/7/2010	2	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					3/29/2010	5/7/2010	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					3/29/2010	5/7/2010	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		3/29/2010	5/7/2010	2	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					3/29/2010	5/7/2010	2	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase A Secant Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				1/26/2011	4/4/2011	3	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		78		776	1/26/2011	4/4/2011	3	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					1/26/2011	4/4/2011	3	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					1/26/2011	4/4/2011	3	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	78	3.0		1/26/2011	4/4/2011	3	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	78		776	1/26/2011	4/4/2011	3	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.019	0.003
Stage 3 - Phase B Temp Sewer																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					4/5/2011	5/2/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					4/5/2011	5/2/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					4/5/2011	5/2/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					4/5/2011	5/2/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		4/5/2011	5/2/2011	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					4/5/2011	5/2/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase C New Sewer																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					4/30/2011	5/16/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					4/30/2011	5/16/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					4/30/2011	5/16/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					4/30/2011	5/16/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		4/30/2011	5/16/2011	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					4/30/2011	5/16/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase D Reconstruct Avenue																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					5/17/2011	6/1/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					5/17/2011	6/1/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					5/17/2011	6/1/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					5/17/2011	6/1/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		5/17/2011	6/1/2011	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					5/17/2011	6/1/2011	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 4 - Phase D Tunnel																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				5/3/2012	9/10/2012	4	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton	8	118		1,181	5/3/2012	9/10/2012	4	160	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					5/3/2012	9/10/2012	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					5/3/2012	9/10/2012	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽¹⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		of	Trucks per Month	in Site	Material (tons)												
Truck Idling, (average per truck), min	g/hour		118	3.0		5/3/2012	9/10/2012	4	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	118		1,181	5/3/2012	9/10/2012	4	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 4 - Phase E Manifold																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					9/11/2012	6/4/2013	9	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					9/11/2012	6/4/2013	9	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					9/11/2012	6/4/2013	9	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					9/11/2012	6/4/2013	9	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8		3.0		9/11/2012	6/4/2013	9	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					9/11/2012	6/4/2013	9	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SB5 - Fan Facility - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 4 Phase A Secure St																
Front End Loaders	1	400	84	84	6/2/2011	7/2/2011	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	1															
Stage 4 Phase B Install Secant Piles																
Drill Rig	1	250	108	108	6/2/2011	3/21/2012	9	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/2/2011	3/21/2012	9	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	2	80	47	94	6/2/2011	3/21/2012	9	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	6/2/2011	3/21/2012	9	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	5															
Stage 4 Phase C Excavation																
Excavators	1	200	118	118	7/15/2011	5/2/2012	10	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	7/15/2011	5/2/2012	10	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	7/15/2011	5/2/2012	10	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 4 Phase F Construct Facility																
Cherry Pickers	1	165	97	97	6/5/2013	3/27/2014	9	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/5/2013	3/27/2014	9	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4 Phase G Interior Spaces																
Cherry Pickers	1	165	97	97	10/11/2013	2/13/2014	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	10/11/2013	2/13/2014	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	10/11/2013	2/13/2014	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Generator	1	100	59	59	10/11/2013	2/13/2014	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 4 Phase H Install Equipment																
Generator	1	100	59	59	1/3/2014	6/19/2014	5	160	0.0000	0.0000	0.0000	0.0000	0.1528	0.2628	0.0020	0.0020
Cherry Pickers	1	165	97	97	1/3/2014	6/19/2014	5	160	0.0000	0.0000	0.0000	0.0000	0.0561	0.2587	0.0020	0.0020
Front End Loaders	1	400	84	84	1/3/2014	6/19/2014	5	160	0.0000	0.0000	0.0000	0.0000	0.0541	0.2587	0.0020	0.0020
Material Hoist	1	150	32	32	1/3/2014	6/19/2014	5	160	0.0000	0.0000	0.0000	0.0000	0.0561	0.2587	0.0020	0.0020
Construction Equipment Total	4															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SBS - Fan Facility - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.037	0.071	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
				0.076	0.258	0.003	0.003
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.045	0.167	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.026	0.120	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.023	0.044	0.001	0.001
				0.068	0.200	0.002	0.002
0.1528	0.2628	0.0020	0.0020	0.002	0.003	0.000	0.000
0.0561	0.2587	0.0020	0.0020	0.001	0.004	0.000	0.000
0.0541	0.2587	0.0020	0.0020	0.001	0.004	0.000	0.000
0.0561	0.2587	0.0020	0.0020	0.000	0.001	0.000	0.000
				0.004	0.012	0.000	0.000

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Travelled (per hour/idle time Min/hour)	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Trucks	in Site	Material (tons)												
Stage 4 Phase A Secure St																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					6/2/2011	7/2/2011	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton		430		4,300	6/2/2011	7/2/2011	1	0	0.0000	0.0000	0.0061	0.0019			0.013	0.004
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/2/2011	7/2/2011	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/2/2011	7/2/2011	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		6/2/2011	7/2/2011	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	430		4,300	6/2/2011	7/2/2011	1	160	0.0000	0.0000	0.0042	0.0001			0.009	0.000
Construction Equipment Total	0													0.000	0.000	0.022	0.004
Stage 4 Phase B Install Secant Piles																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					6/2/2011	3/21/2012	9	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					6/2/2011	3/21/2012	9	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/2/2011	3/21/2012	9	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/2/2011	3/21/2012	9	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					6/2/2011	3/21/2012	9	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					6/2/2011	3/21/2012	9	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 4 Phase C Excavation																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				7/15/2011	5/2/2012	10	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton	8	1,000		10,000	7/15/2011	5/2/2012	10	160	0.0000	0.0000	0.0061	0.0019			0.003	0.001
Truck Exhaust, (g/veh-mile)	g/veh-mile					7/15/2011	5/2/2012	10	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					7/15/2011	5/2/2012	10	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		7/15/2011	5/2/2012	10	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton		1,000		10,000	7/15/2011	5/2/2012	10	0	0.0000	0.0000	0.0042	0.0001			0.002	0.000
Construction Equipment Total	0													0.000	0.000	0.023	0.004
Stage 4 Phase F Construct Facility																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					6/5/2013	3/27/2014	9	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					6/5/2013	3/27/2014	9	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/5/2013	3/27/2014	9	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/5/2013	3/27/2014	9	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					6/5/2013	3/27/2014	9	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					6/5/2013	3/27/2014	9	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 4 Phase G Interior Spaces																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					10/11/2013	2/13/2014	4	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					10/11/2013	2/13/2014	4	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					10/11/2013	2/13/2014	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					10/11/2013	2/13/2014	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					10/11/2013	2/13/2014	4	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					10/11/2013	2/13/2014	4	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 4 Phase H Install Equipment																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					1/3/2014	6/19/2014	5	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					1/3/2014	6/19/2014	5	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					1/3/2014	6/19/2014	5	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					1/3/2014	6/19/2014	5	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					1/3/2014	6/19/2014	5	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					1/3/2014	6/19/2014	5	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

CO Emission Rates (Alt SB5)

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month mon	Working Hours per Year yr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.040	0.2020	8	160	8760	0.0630	0.0058	821.26	7.6710E-05	7.0755E-06
7th Avenue	0.114	0.5450	8	160	8760	0.1795	0.0157	87	2.0638E-03	1.8020E-04
Fan Facility	0.000	0.0000	8	160	8760	0.0000	0.0000	80	#DIV/0!	#DIV/0!

NO₂ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.074	0.3690	8	160	8760	0.1161	0.0106	821.26	1.4138E-04	1.2924E-05
7th Avenue	0.213	1.0226	8	160	8760	0.3352	0.0294	87	3.8523E-03	3.3812E-04
Fan Facility	0.000	0.000	8	160	8760	0.0000	0.0000	0	#DIV/0!	#DIV/0!

Note: Use 0.38 for NO₂/NO_x conversion factor consistent with the DEIS analysis.

PM₁₀ Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.021	0.2050	8	480	8760	0.0110	0.0059	631.74	1.7452E-05	9.3348E-06
7th Avenue	0.000	0.0000	8	480	8760	0.0000	0.0000	87	0.0000E+00	0
Fan Facility	0.000	0.0000	8	480	8760	0.0000	0.0000	0	#DIV/0!	#DIV/0!

PM_{2.5} Emission Rates

Location	Highest Monthly ER ton/month	Highest Annual ER ton/year	Working Hours per Day hr	Working Hours per Month hr	Working Hours per Year hr	Average ER per Day g/sec	Average ER per Year g/sec	Source Area m ²	Daily ER per Area g/sec-m ²	Annual ER per Area g/sec-m ²
Greenwich Avenue	0.008	0.0330	8	480	8760	0.0042	0.0009	821.26	5.1140E-06	1.15591E-06
7th Avenue	0.004	0.0200	8	480	8760	0.0021	0.0006	87	2.4138E-05	6.61302E-06
Fan Facility	0.000	0.0000	8	480	8760	0.0000	0.0000	0	#DIV/0!	#DIV/0!

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis
Alt SB1 - Greenwich - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1-Phase B Excavate NB Lane																
Excavators	1	200	118	118	2/26/2010	7/23/2010	5	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	2/26/2010	7/23/2010	5	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	2/26/2010	7/23/2010	5	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	2/19/2010	2/25/2010	0	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 2- Excavate SB Lane																
Excavators	1	200	118	118	12/6/2010	10/21/2011	10	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	12/14/2010	1/14/2011	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	3	80	47	142	12/14/2010	1/14/2011	1	40	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	12/6/2010	10/21/2011	10	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	6															
Stage 2- Construct Plenum																
Cherry Pickers	1	165	97	97	10/24/2011	1/25/2012	3	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	10/24/2011	1/25/2012	3	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	1/26/2012	5/31/2012	4	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4-Backfill & Restore Traffic Lanes																
Excavators	1	200	118	118	3/26/2013	5/2/2013	2	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Paver	1	150	89	89	3/26/2013	5/2/2013	2	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Ballast Compactor	1	80	34	34	3/26/2013	5/2/2013	2	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	3/26/2013	5/2/2013	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis
 Alt SB1 - Greenwich - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.059	0.230	0.002	0.002
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.027	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.043	0.164	0.002	0.002
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
				0.014	0.063	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.026	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.041	0.157	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour/Idle time Min/hour)	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Truck Trips per Month	in Site	Material (tons)												
Stage 1-Phase B Excavate NB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				2/26/2010	7/23/2010	5	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		120		2,100	2/26/2010	7/23/2010	5	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/26/2010	7/23/2010	5	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/26/2010	7/23/2010	5	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		2/26/2010	7/23/2010	5	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		2,100	2/26/2010	7/23/2010	5	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.020	0.003
Stage 2- Excavate SB Lane																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				12/6/2010	10/21/2011	10	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton		120		2,100	12/6/2010	10/21/2011	10	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					12/6/2010	10/21/2011	10	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					12/6/2010	10/21/2011	10	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour	8	40	3.0		12/6/2010	10/21/2011	10	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton				2,100	12/6/2010	10/21/2011	10	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.019	0.003
Stage 1- Excavate TA Lot																	
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			2/15/2010	5/7/2010	3	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003
Spoils / Topsoil removal (Excavation)	lb/ton				2,050	2/15/2010	5/7/2010	3	0	0.0000	0.0000	0.0061	0.0019			0.002	0.001
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/15/2010	5/7/2010	3	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/15/2010	5/7/2010	3	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour			3.0		2/15/2010	5/7/2010	3	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton	8	40		2,050	2/15/2010	5/7/2010	3	160	0.0000	0.0000	0.0042	0.0001			0.001	0.000
Construction Equipment Total	0													0.000	0.000	0.022	0.003
Stage 4-Backfill & Restore Traffic Lanes																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					3/26/2013	5/2/2013	2	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					3/26/2013	5/2/2013	2	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					3/26/2013	5/2/2013	2	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					3/26/2013	5/2/2013	2	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					3/26/2013	5/2/2013	2	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					3/26/2013	5/2/2013	2	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SB1 - 7th Ave - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1 - Phase C Install Mini-Piles																
Work Train (Diesel Locomotive)	1	312	184	184	2/8/2010	3/19/2010	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Pile Driving Rigs	1	350	207	207	2/8/2010	4/30/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	2/8/2010	4/30/2010	2	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 1 - Phase D Jet Grout																
Work Train (Diesel Locomotive)	1	312	184	184	3/22/2010	9/7/2010	6	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Drill Rig	1	250	108	108	3/22/2010	9/7/2010	6	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Jet Grout Rig	1	300	177	177	3/22/2010	9/7/2010	6	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	3/22/2010	9/7/2010	6	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 3 - Excavation																
Excavators	1	200	118	118	6/1/2012	7/13/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/1/2012	7/13/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	6/1/2012	7/13/2012	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 3 - Phase B Secant Piles																
Drill Rig	1	250	108	108	6/1/2012	7/27/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/1/2012	7/27/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Cherry Pickers	1	165	97	97	6/1/2012	7/27/2012	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	6/1/2012	7/27/2012	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															
Stage 3 - Phase C Temp Sewer																
Front End Loaders	1	400	84	84	7/30/2012	8/24/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	7/30/2012	8/24/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase D Tunnel																
Front End Loaders	1	400	84	84	10/23/2012	2/18/2013	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Mini Excavator	1	120	71	71	10/23/2012	2/18/2013	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase E Manifold																
Front End Loaders	1	400	84	84	2/19/2013	9/19/2013	7	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	2/19/2013	9/19/2013	7	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 3 - Phase F New Sewer																
Front End Loaders	1	400	84	84	8/27/2012	9/10/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Excavators	1	200	118	118	8/27/2012	9/10/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Concrete Pumps	1	181	107	107	8/27/2012	9/10/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 3 - Phase G Reconstruct Avenue																
Front End Loaders	1	400	84	84	9/25/2012	10/22/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Paver	1	150	89	89	9/25/2012	10/22/2012	1	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Ballast Compactor	1	80	34	34	9/25/2012	10/22/2012	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SB1 - 7th Ave - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.026	0.125	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.029	0.141	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.055	0.266	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.026	0.125	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.022	0.111	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.061	0.304	0.002	0.002
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.045	0.167	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.068	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.058	0.223	0.002	0.002
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
				0.026	0.131	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.010	0.046	0.001	0.001
				0.022	0.103	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
				0.025	0.124	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7051	3.5658	0.0280	0.0272	0.013	0.067	0.001	0.001
				0.040	0.199	0.002	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
0.8176	3.6550	0.0412	0.0400	0.013	0.057	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.014	0.026	0.000	0.000
				0.038	0.140	0.001	0.001

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽¹⁾				Estimated Pollutant Monthly Emissions				
		of	of	Traveled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons	
		Hours/day	Trucks per Month	in Site	Material (tons)													
Stage 1 - Phase C Install Mini-Piles																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					2/8/2010	3/19/2010	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton	8			5	2/8/2010	3/19/2010	1	160	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/8/2010	3/19/2010	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/8/2010	3/19/2010	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour	8	40	3.0		2/8/2010	3/19/2010	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton	8			5	2/8/2010	3/19/2010	1	160	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 1 - Phase D Jet Grout																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					3/22/2010	9/7/2010	6	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					3/22/2010	9/7/2010	6	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					3/22/2010	9/7/2010	6	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					3/22/2010	9/7/2010	6	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					3/22/2010	9/7/2010	6	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					3/22/2010	9/7/2010	6	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 3 - Excavation																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/1/2012	7/13/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/1/2012	7/13/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					6/1/2012	7/13/2012	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 3 - Phase B Secant Piles																		
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				6/1/2012	7/27/2012	1	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003	
Spoils / Topsoil removal (Excavation)	lb/ton				675	6/1/2012	7/27/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.002	0.001	
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/1/2012	7/27/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/1/2012	7/27/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour	8	40	3.0		6/1/2012	7/27/2012	1	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton				675	6/1/2012	7/27/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.001	0.000	
Construction Equipment Total	0														0.000	0.000	0.022	0.003
Stage 3 - Phase C Temp Sewer																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					7/30/2012	8/24/2012	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					7/30/2012	8/24/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					7/30/2012	8/24/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					7/30/2012	8/24/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					7/30/2012	8/24/2012	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					7/30/2012	8/24/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 3 - Phase D Tunnel																		
Bulldozing-(Demolition), lb/hr of material	lb/hour	8				10/23/2012	2/18/2013	4	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003	
Spoils / Topsoil removal (Excavation)	lb/ton				1,000	10/23/2012	2/18/2013	4	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					10/23/2012	2/18/2013	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					10/23/2012	2/18/2013	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour	8	40	3.0	1,000	10/23/2012	2/18/2013	4	160	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					10/23/2012	2/18/2013	4	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.019	0.003
Stage 3 - Phase E Manifold																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					2/19/2013	9/19/2013	7	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					2/19/2013	9/19/2013	7	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/19/2013	9/19/2013	7	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/19/2013	9/19/2013	7	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
		of	of	Traveled (per hour)/idle time	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons
		Hours /day	Trucks per Month	in Site	Material (tons)												
Truck Idling, (average per truck), min	g/hour					2/19/2013	9/19/2013	7	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					2/19/2013	9/19/2013	7	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase F New Sewer																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					8/27/2012	9/10/2012	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					8/27/2012	9/10/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					8/27/2012	9/10/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					8/27/2012	9/10/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					8/27/2012	9/10/2012	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					8/27/2012	9/10/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000
Stage 3 - Phase G Reconstruct Avenue																	
Bulldozing-(Demolition), lb/hr of material	lb/hour					9/25/2012	10/22/2012	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000
Spoils / Topsoil removal (Excavation)	lb/ton					9/25/2012	10/22/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000
Truck Exhaust, (g/veh-mile)	g/veh-mile					9/25/2012	10/22/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					9/25/2012	10/22/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000
Truck Idling, (average per truck), min	g/hour					9/25/2012	10/22/2012	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000
Truck Loading	lb/ton					9/25/2012	10/22/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000
Construction Equipment Total	0													0.000	0.000	0.000	0.000

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SB1 - Fan Facility - Equipment/Activity

Construction Equipment	Number of Units	Equipment Rated HP ⁽²⁾ hp/hr	Average Equipment Usage of HP ⁽²⁾ hrs	Total Utilized Equipment HP (all units) hp/hr	Start Date	End Date	Construction Activity Duration		2007-2013 Pollutant Emission Factors ⁽³⁾				2014- 2020 Pollutant Emission Factors ⁽³⁾			
							Months	(4) hrs/month	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr
Stage 1 Phase A Secure St																
Front End Loaders	1	400	84	84	2/8/2010	2/12/2010	0	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	1															
Stage 3 - Excavation																
Excavators	1	200	118	118	6/1/2012	7/13/2012	1	160	0.7051	3.5658	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	6/1/2012	7/13/2012	1	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	6/1/2012	7/13/2012	1	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	3															
Stage 4 Phase A Construct Facility																
Cherry Pickers	1	165	97	97	10/23/2012	3/11/2013	5	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	10/23/2012	3/11/2013	5	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4 Phase B Install Equipment																
Cherry Pickers	1	165	97	97	11/1/2013	8/1/2014	9	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	11/1/2013	8/1/2014	9	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Generator	1	100	59	59	11/1/2013	8/1/2014	9	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Material Hoist	1	150	32	32	11/1/2013	8/1/2014	9	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	2															
Stage 4 Phase C Interior Spaces																
Cherry Pickers	1	165	97	97	11/6/2012	3/25/2013	4	160	0.8176	3.6550	0.0412	0.0400	0.0000	0.0000	0.0000	0.0000
Compressors (total: electric and/or diesel)	1	80	47	47	11/6/2012	3/25/2013	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Front End Loaders	1	400	84	84	11/6/2012	3/25/2013	4	160	0.7948	3.8645	0.0280	0.0272	0.0000	0.0000	0.0000	0.0000
Generator	1	100	59	59	11/6/2012	3/25/2013	4	160	2.2315	4.2521	0.0575	0.0558	0.0000	0.0000	0.0000	0.0000
Construction Equipment Total	4															

Emergency Vent Plant for the 8th and 7th Ave Subway Construction Emission Analysis Alt SB1 - Fan Facility - Equipment/Activity

Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions			
CO g/hp-hr	NOx g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO tons	NOx tons	PM10 tons	PM2.5 tons
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.012	0.057	0.000	0.000
0.7051	3.5658	0.0280	0.0272	0.015	0.074	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
				0.045	0.167	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
				0.026	0.120	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.023	0.044	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.005	0.020	0.000	0.000
				0.026	0.120	0.001	0.001
0.8176	3.6550	0.0412	0.0400	0.014	0.063	0.001	0.001
2.2315	4.2521	0.0575	0.0558	0.019	0.035	0.000	0.000
0.7948	3.8645	0.0280	0.0272	0.012	0.057	0.000	0.000
2.2315	4.2521	0.0575	0.0558	0.023	0.044	0.001	0.001
				0.068	0.200	0.002	0.002

Construction Activity	Emission Units	Number	Number	Distance	Quantity	Start Date	End Date	Construction Activity Duration		Pollutant Emission Factors ⁽³⁾				Estimated Pollutant Monthly Emissions				
		of	of	Travelled (per hour/idle time Min/hour)	of			Months	(4) hrs/month	CO	NOx	PM10	PM2.5	CO tons	NOx tons	PM10 tons	PM2.5 tons	
		Hours/day	Trucks	in Site	Material (tons)													
Stage 1 Phase A Secure St																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					2/8/2010	2/12/2010	0	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					2/8/2010	2/12/2010	0	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					2/8/2010	2/12/2010	0	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					2/8/2010	2/12/2010	0	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					2/8/2010	2/12/2010	0	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					2/8/2010	2/12/2010	0	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 3 - Excavation																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					6/1/2012	7/13/2012	1	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					6/1/2012	7/13/2012	1	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					6/1/2012	7/13/2012	1	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					6/1/2012	7/13/2012	1	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 4 Phase A Construct Facility																		
Bulldozing-(Demolition), lb/hr of material	lb/hour	8	40			10/23/2012	3/11/2013	5	160	0.0000	0.0000	0.2258	0.0316			0.018	0.003	
Spoils / Topsoil removal (Excavation)	lb/ton				1,000	10/23/2012	3/11/2013	5	0	0.0000	0.0000	0.0061	0.0019			0.001	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					10/23/2012	3/11/2013	5	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					10/23/2012	3/11/2013	5	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour			3.0		10/23/2012	3/11/2013	5	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton	8	40		1,000	10/23/2012	3/11/2013	5	160	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.019	0.003
Stage 4 Phase B Install Equipment																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					11/1/2013	8/1/2014	9	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					11/1/2013	8/1/2014	9	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					11/1/2013	8/1/2014	9	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					11/1/2013	8/1/2014	9	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					11/1/2013	8/1/2014	9	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					11/1/2013	8/1/2014	9	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000
Stage 4 Phase C Interior Spaces																		
Bulldozing-(Demolition), lb/hr of material	lb/hour					11/6/2012	3/25/2013	4	0	0.0000	0.0000	0.2258	0.0316			0.000	0.000	
Spoils / Topsoil removal (Excavation)	lb/ton					11/6/2012	3/25/2013	4	0	0.0000	0.0000	0.0061	0.0019			0.000	0.000	
Truck Exhaust, (g/veh-mile)	g/veh-mile					11/6/2012	3/25/2013	4	0	11.2400	15.2700	0.3338	0.3072	0.000	0.000	0.000	0.000	
Truck Fugitive Dust, (g/veh-mile)	g/veh-mile					11/6/2012	3/25/2013	4	0	0.0000	0.0000	15.6462	0.3129			0.000	0.000	
Truck Idling, (average per truck), min	g/hour					11/6/2012	3/25/2013	4	0	34.4100	42.2100	1.3012	1.1971	0.000	0.000	0.000	0.000	
Truck Loading	lb/ton					11/6/2012	3/25/2013	4	0	0.0000	0.0000	0.0042	0.0001			0.000	0.000	
Construction Equipment Total	0														0.000	0.000	0.000	0.000