

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
CATSKILL/DELAWARE UV FACILITY**

4.11.	NOISE.....	1
4.11.1.	Introduction.....	1
4.11.1.1.	Preliminary Noise Screening for Mobile Source Noise Analysis.....	1
4.11.2.	Baseline Conditions.....	3
4.11.2.1.	Existing Conditions.....	3
4.11.2.2.	Future Without the Project.....	17
4.11.3.	Potential Impacts.....	19
4.11.3.1.	Potential Project Impacts.....	19
4.11.3.2.	Potential Construction Impacts.....	29
4.11.4.	Potential Impacts of Relocating the Hammond House.....	56
FLOWCHART 4.11-1 NOISE FRAMEWORK OF ANALYSIS.....		2
FIGURE 4.11-1. ROUTE SEGMENTS FOR MOBILE SOURCE NOISE ANALYSIS.....		11
FIGURE 4.11-2. STATIONARY NOISE SOURCE MONITORING LOCATIONS.....		14
FIGURE 4.11-3. CONSTRUCTION ACTIVITY ZONES.....		30
FIGURE 4.11-4. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S1.....		34
FIGURE 4.11-5. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S2.....		35
FIGURE 4.11-6. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S3.....		36
FIGURE 4.11-7. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S4.....		37
FIGURE 4.11-8. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S5.....		38
FIGURE 4.11-9. UV FACILITY TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S6.....		39
FIGURE 4.11-10. LATERAL EXTENT OF NOISE LEVELS EXCEEDING THE THRESHOLD (BEFORE MITIGATION).....		44
FIGURE 4.11-11. UV FACILITY WITH CROTON TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S1.....		47
FIGURE 4.11-12. UV FACILITY WITH CROTON TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S2.....		48
FIGURE 4.11-13. UV FACILITY WITH CROTON TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S3.....		49
FIGURE 4.11-14. UV FACILITY WITH CROTON TOTAL NOISE LEVEL BY MONTH DURING CONSTRUCTION AT MONITORING LOCATION EV-S4.....		50
TABLE 4.11-1. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING CONSTRUCTION (2008) WITHOUT CROTON PROJECT.....		4
TABLE 4.11-2. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING OPERATION (2010) WITHOUT CROTON PROJECT.....		5

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
CATSKILL/DELAWARE UV FACILITY**

TABLE 4.11-3. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION A).....	6
TABLE 4.11-4. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION B).....	7
TABLE 4.11-5. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION C).....	8
TABLE 4.11-6. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION D).....	9
TABLE 4.11-7. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING OPERATIONS (2010) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT.....	10
TABLE 4.11-8. ROUTE SEGMENTS CONSIDERED FOR MOBILE SOURCE NOISE ANALYSIS.....	12
TABLE 4.11-9. NOISE SENSITIVE RECEPTORS FOR STATIONARY SOURCE ANALYSIS.....	13
TABLE 4.11-10. MEASURED 24-HOUR NOISE LEVELS (LEQ) AT RECEPTOR_EV-S1 ON A WEEKDAY.....	15
TABLE 4.11-11. MEASURED 24-HOUR NOISE LEVELS (LEQ) AT RECEPTOR.....	15
TABLE 4.11-12. MEASURED 10-HOUR NOISE LEVELS (LEQ) AT RECEPTOR_EV-S5 ON A WEEKDAY.....	15
TABLE 4.11-13. TWENTY-MINUTE MEASURED NOISE LEVELS AT SENSITIVE RECEPTORS ON A WEEKDAY (IN DBA).....	16
TABLE 4.11-14. TWENTY-MINUTE MEASURED NOISE LEVELS AT SENSITIVE RECEPTORS ON A SUNDAY (LEQ, DBA).....	17
TABLE 4.11-15. NOISE LIMITS ¹ FOR OPERATIONS IN TOWN OF MOUNT PLEASANT (LEQ, DBA).....	20
TABLE 4.11-16. NOISE LIMITS FOR OPERATIONS IN TOWN OF GREENBURGH ¹ (LEQ, DBA).....	20
TABLE 4.11-17. OPERATIONS EQUIPMENT DATA FOR EASTVIEW SITE.....	21
TABLE 4.11-18. SCENARIO A: MAXIMUM NOISE LEVELS FROM NORMAL OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKDAY (LEQ, DBA).....	25
TABLE 4.11-19. SCENARIO B: MAXIMUM NOISE LEVELS FROM MAINTENANCE TESTING OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKDAY (LEQ, DBA).....	26

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
CATSKILL/DELAWARE UV FACILITY**

TABLE 4.11-20. SCENARIO C: MAXIMUM NOISE LEVELS FROM NORMAL OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKEND (LEQ, DBA)	27
TABLE 4.11-21. NOISE LIMITS ¹ FOR CONSTRUCTION ACTIVITY IN TOWN OF MOUNT PLEASANT ² (L ₁₀ , DBA).....	29
TABLE 4.11-22. UV FACILITY: NOISE LEVELS AND USAGE FACTORS FOR CONSTRUCTION EQUIPMENT USED AT EASTVIEW SITE ¹	32
TABLE 4.11-23. UV FACILITY: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION (LEQ, DBA)	40
TABLE 4.11-24. UV FACILITY: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT 400 FEET FROM EASTVIEW SITE WITHOUT MITIGATION COMPARED TO MOUNT PLEASANT CODE (L ₁₀ , DBA).....	43
TABLE 4.11-25. UV FACILITY WITH CROTON PROJECT: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION (LEQ, DBA).....	52

4.11. NOISE

4.11.1. Introduction

This noise analysis is divided into two types: mobile and stationary source noise. Mobile source noise is analyzed because of the potential for noise generated from vehicles traveling on roadways near sensitive land uses to and from the project site. Stationary source noise describes the sound level emanating from a property. Both mobile and stationary source noises were analyzed using the descriptor L_{eq} . L_{eq} is the continuous equivalent sound level, defined as the single sound pressure level that, if constant over the stated measurement period, would contain the same sound energy as the actual monitored sound that is fluctuating in level over the measurement period. The methodology used to prepare this analysis is presented in [Section 3.11, Data Collection and Impact Methodologies, Noise](#). [Flowchart 4.11-1](#) presents an overview of the analysis framework, illustrating the two Future Without the Project and Future With the Project scenarios and multiple analysis years.

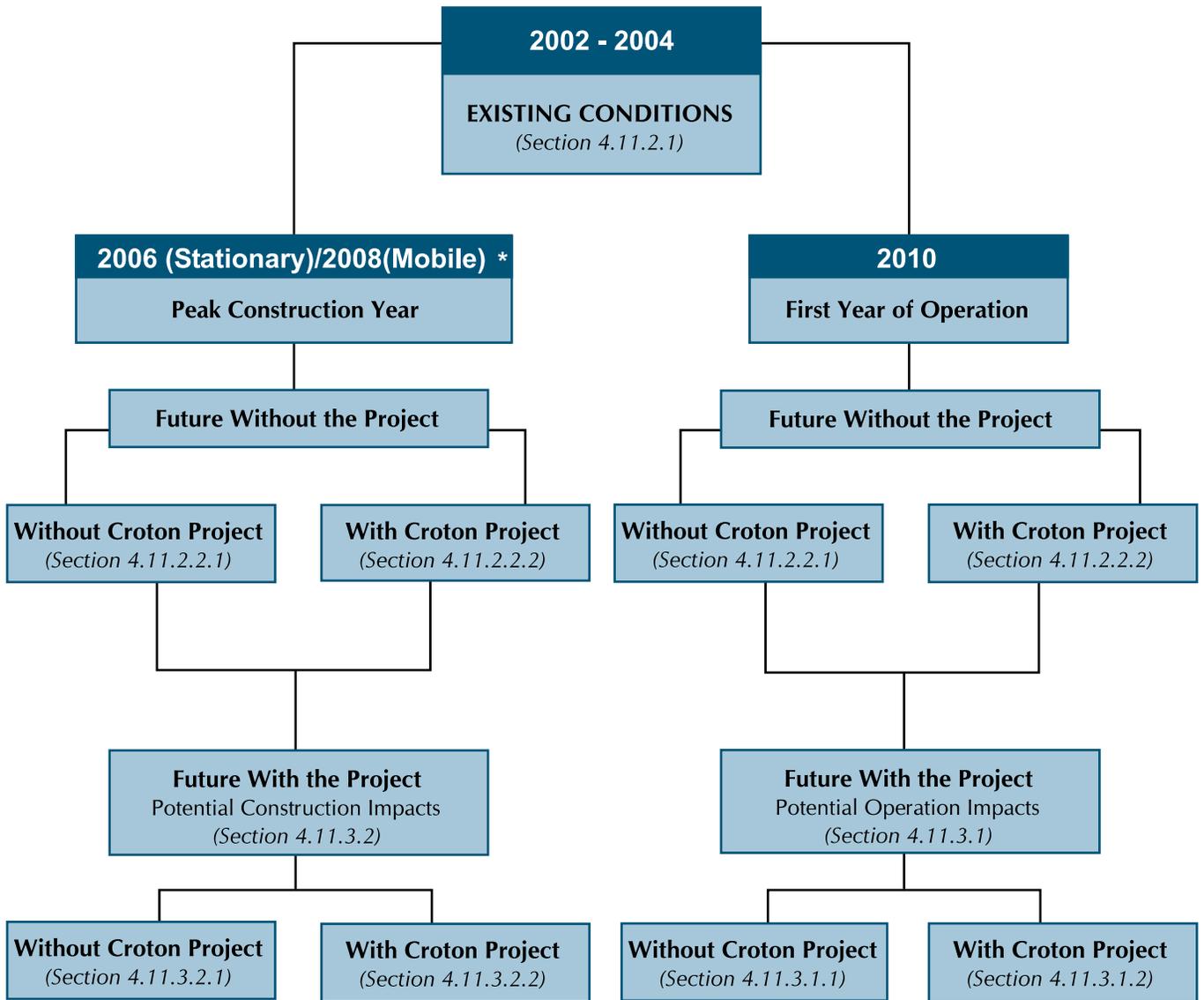
4.11.1.1. Preliminary Noise Screening for Mobile Source Noise Analysis

As outlined in the methodologies section, and as the initial step in the mobile source noise analysis, a preliminary noise screening using passenger car equivalence (PCE) values was performed to determine whether receptors located near the identified noise-sensitive route segments would experience an increase in noise levels of 3 decibels (dBA) or more as a result of the additional vehicular traffic generated by the project. Existing and future anticipated traffic data for the noise-sensitive route segments in the vicinity of the Eastview Site were analyzed to determine a PCE value for each segment for the morning peak hour and the afternoon peak hour for the existing condition. The preliminary noise screening was performed by comparing the existing PCEs with existing PCEs plus the addition of the future project-generated PCEs. The equation shown below was used for this comparison. Future PCEs would be from additional traffic resulting from the proposed facility.

If $\frac{\text{Existing PCEs} + \text{Future Project-Generated PCEs}}{\text{Existing PCEs}} > 2.0$ then an impact may occur.

This comparative analysis of existing PCEs and future PCEs was used to determine whether the receptors near the identified noise-sensitive route segments would potentially experience a doubling or more of PCEs. A 3 dBA threshold was used for screening purposes since it correlates to an increase that is perceptible to human auditory sensitivity. This threshold is used as a guideline to determine whether anticipated project impacts warrant further field measurements and subsequent Traffic Noise Model (TNM) analysis. A doubling of PCEs corresponds to a noise increase of three dBA. The *CEQR Technical Manual* has established a project-induced noise level increase threshold of three to five dBA at sensitive receptors. Route segments that did not experience a doubling of PCEs due to project-induced traffic, therefore, would not exceed this impact threshold.

The two time periods representing the largest increase in future PCEs resulting from the proposed construction activities and facility operations were used for the comparative analysis. The anticipated construction-related peak mobile source year (2008) was selected for the



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NOTES:
 See Section 5.1.1, Kensico Reservoir Work Sites, for the 2006 Analysis of Filling the Aerators
 ★ 2010 is the Anticipated Peak Year for Stationary Source Noise
 2006/2010 is the Anticipated Peak Year for Mobile Source Noise

Noise Framework of Analysis

construction analysis. The anticipated PCEs from normal operations for the Future With the Project year (2010) were used for the operation analysis.

Following the preliminary noise screening, using the comparative PCE analysis for the operations and construction years, it was determined that the route segments with sensitive receptors would not experience a doubling of PCEs and therefore would not experience a 3 dBA increase in noise level for both Future Without the Project conditions (i.e., existing noise levels and future noise levels with Croton).

Tables 4.11-1 and 4.11-2, respectively, present the comparison of future PCEs from the proposed facility to existing PCEs along route segments for construction and project operations (without the Croton project). Tables 4.11-3 through 4.11-6, respectively, present the comparison of future PCEs from the proposed facility to PCEs in the Future Without the Project (with the Croton project) along route segments for construction with the four different construction worker parking Options, which are as follows:

Option A: All of the construction workers for the Croton project and the proposed UV Facility would park at the Landmark at Eastview office park, west of the project site, and would be shuttled to the construction site in buses or vans.

Option B: All of the construction workers for the Croton project and the proposed UV Facility would park at the Westchester Community College (WCC) Campus, east of the project site, and would be shuttled to the construction site in buses or vans.

Option C: Parking for all the construction workers for the Croton project and the proposed UV Facility would be split evenly between the Landmark at Eastview and WCC, and would be shuttled to the construction site in buses or vans.

Option D: Parking for the construction workers for the Croton project would park at the Landmark at Eastview, and parking for the construction workers for the proposed UV Facility would park at the Home Depot, and both would be shuttled to the construction site in buses or vans.

Table 4.11-7 presents the comparison of future PCEs from the proposed facility to PCEs in the Future Without the Project (with the Croton project) for project operations.

4.11.2. Baseline Conditions

4.11.2.1. Existing Conditions

4.11.2.1.1. Mobile Source Noise

The roadways considered for mobile source noise analysis at the Eastview Site are those presented in Figure 4.11-1 and Table 4.11-8. The roadways considered for analysis were those local routes identified as possible transportation routes that connect the major thoroughfares to the site. Sensitive receptors along the proposed facility's transportation routes were identified.

**TABLE 4.11-1. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING CONSTRUCTION (2008)
WITHOUT CROTON PROJECT**

Route Segment		Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	4428	6:30-7:30	32	3	173	1.04	0.17	No
		PM Peak	5863	3:30-4:30	40	3	181 0	1.03	0.13	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	6541	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	6061	3:30-4:30	0	0	0	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2392	6:30-7:30	4	2	98	1.04	0.17	No
		PM Peak	2622	3:30-4:30	4	2	98	1.04	0.16	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1022	6:30-7:30	4	3	145	1.14	0.58	No
		PM Peak	1155	3:30-4:30	4	3	145	1.13	0.51	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1249	6:30-7:30	0	3	141	1.11	0.46	No
		PM Peak	896	3:30-4:30	0	3	141	1.16	0.63	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1197	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	2904	6:30-7:30	12	3	153	1.05	0.22	No
		PM Peak	2451	3:30-4:30	12	3	153	1.06	0.26	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2399	6:30-7:30	228	0	228	1.10	0.39	No
		PM Peak	2422	3:30-4:30	228	0	228	1.09	0.39	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	7473	6:30-7:30	24	3	165	1.02	0.09	No
		PM Peak	6075	3:30-4:30	24	3	165	1.03	0.12	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	8852	6:30-7:30	24	6	306	1.03	0.15	No
		PM Peak	5702	3:30-4:30	24	6	306	1.05	0.23	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	536	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	1.00	0.00	No

Notes:

New PCEs = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

**TABLE 4.11-2. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING OPERATION (2010)
WITHOUT CROTON PROJECT**

Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCes	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCes	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1 Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	12743	8:00-9:00	4	0	4	1.00	0.00	No
	PM Peak	5863	3:30-4:30	3	0	3	1.00	0.00	No
2 Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	14355	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	6061	3:30-4:30	0	0	0	1.00	0.00	No
3 Knollwood Rd btw Tarrytown Rd and I287	AM Peak	6792	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	2622	3:30-4:30	0	0	0	1.00	0.00	No
4 Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	2593	8:00-9:00	0	1	47	1.02	0.08	No
	PM Peak	1155	3:30-4:30	0	1	47	1.04	0.17	No
5 Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	2594	8:00-9:00	0	1	47	1.02	0.08	No
	PM Peak	896	3:30-4:30	0	1	47	1.05	0.22	No
6 Bradhurst btw Grasslands and Lakeview	AM Peak	3258	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	1171	3:30-4:30	0	0	0	1.00	0.00	No
7 Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	7021	8:00-9:00	1	1	48	1.01	0.03	No
	PM Peak	2451	3:30-4:30	1	1	48	1.02	0.08	No
8 Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	6937	8:00-9:00	17	0	17	1.00	0.01	No
	PM Peak	2422	3:30-4:30	17	0	17	1.01	0.03	No
9 Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	14603	8:00-9:00	2	1	49	1.00	0.01	No
	PM Peak	6075	3:30-4:30	2	1	49	1.01	0.03	No
10 Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	12836	8:00-9:00	2	2	96	1.01	0.03	No
	PM Peak	5702	3:30-4:30	2	2	96	1.02	0.07	No
11 Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	5455	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	558	3:30-4:30	0	0	0	1.00	0.00	No

Notes:

New PCes = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCes + Project generated PCes) / Existing PCes

Incremental change in dBA = 10 log (PCE ratio)

TABLE 4.11-3. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION A)

	Route Segment	Period of Analysis (Weekday)	No Build (with Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	5684	6:30-7:30	29	9	2	479	1.08	0.35	No
		PM Peak	6395	3:30-4:30	36	9	2	486	1.08	0.32	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	476	6:30-7:30	31	0	0	31	1.07	0.27	No
		PM Peak	236	3:30-4:30	2	0	0	2	1.01	0.04	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2657	6:30-7:30	3	2	0	97	1.04	0.16	No
		PM Peak	2763	3:30-4:30	4	2	0	98	1.04	0.15	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1816	6:30-7:30	3	5	0	238	1.13	0.53	No
		PM Peak	1758	3:30-4:30	3	5	0	238	1.14	0.55	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1195	6:30-7:30	3	5	0	238	1.20	0.79	No
		PM Peak	894	3:30-4:30	3	5	0	238	1.27	1.03	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1481	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	1241	3:30-4:30	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	3264	6:30-7:30	11	5	0	246	1.08	0.32	No
		PM Peak	2795	3:30-4:30	11	5	0	246	1.09	0.37	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	3479	6:30-7:30	204	0	0	204	1.06	0.25	No
		PM Peak	3016	3:30-4:30	204	0	0	204	1.07	0.28	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	10126	6:30-7:30	21	5	4	319	1.03	0.13	No
		PM Peak	7904	3:30-4:30	21	5	4	319	1.04	0.17	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	9893	6:30-7:30	21	5	4	319	1.03	0.14	No
		PM Peak	6782	3:30-4:30	21	5	4	319	1.05	0.20	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	614	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	462	3:30-4:30	0	0	0	0	1.00	0.00	No

Notes:

New PCES = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 4.11-4. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION B)

	Route Segment	Period of Analysis (Weekday)	No Build (with Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	5684	6:30-7:30	29	9	2	479	1.08	0.35	No
		PM Peak	6390	3:30-4:30	36	9	0	459	1.07	0.30	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	748	6:30-7:30	58	0	0	58	1.08	0.32	No
		PM Peak	239	3:30-4:30	3	0	0	3	1.01	0.05	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2657	6:30-7:30	3	2	0	97	1.04	0.16	No
		PM Peak	2763	3:30-4:30	4	2	0	98	1.04	0.15	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1816	6:30-7:30	3	5	0	238	1.13	0.53	No
		PM Peak	1758	3:30-4:30	3	5	0	238	1.14	0.55	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1195	6:30-7:30	3	5	0	238	1.20	0.79	No
		PM Peak	894	3:30-4:30	3	5	0	238	1.27	1.03	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1481	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	1241	3:30-4:30	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	4134	6:30-7:30	283	5	7	644	1.16	0.63	No
		PM Peak	3416	3:30-4:30	283	5	7	644	1.19	0.75	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	3226	6:30-7:30	146	0	7	272	1.08	0.35	No
		PM Peak	2948	3:30-4:30	146	0	7	272	1.09	0.38	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	10126	6:30-7:30	21	5	4	319	1.03	0.13	No
		PM Peak	7876	3:30-4:30	21	5	0	256	1.03	0.14	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	9893	6:30-7:30	21	5	4	319	1.03	0.14	No
		PM Peak	6759	3:30-4:30	21	5	0	256	1.04	0.16	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	614	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	462	3:30-4:30	0	0	0	0	1.00	0.00	No

Notes:

New PCES = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 4.11-5. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION C)

	Route Segment	Period of Analysis (Weekday)	No Build (with Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	5684	6:30-7:30	28	9	1	469	1.08	0.34	No
		PM Peak	6392	3:30-4:30	36	9	1	468	1.07	0.31	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	635	6:30-7:30	44	0	0	44	1.07	0.29	No
		PM Peak	237	3:30-4:30	3	0	0	3	1.01	0.05	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2657	6:30-7:30	4	2	0	98	1.04	0.16	No
		PM Peak	2763	3:30-4:30	4	2	0	98	1.04	0.15	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1816	6:30-7:30	4	5	0	239	1.13	0.54	No
		PM Peak	1758	3:30-4:30	4	5	0	239	1.14	0.55	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1195	6:30-7:30	4	5	0	239	1.20	0.79	No
		PM Peak	894	3:30-4:30	4	5	0	239	1.27	1.03	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1481	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	1241	3:30-4:30	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	3698	6:30-7:30	146	5	4	444	1.12	0.49	No
		PM Peak	3106	3:30-4:30	152	3	4	332.5	1.11	0.44	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	3367	6:30-7:30	166	0	4	229	1.07	0.29	No
		PM Peak	2962	3:30-4:30	176	0	4	239	1.08	0.34	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	10126	6:30-7:30	22	5	4	329	1.03	0.14	No
		PM Peak	7881	3:30-4:30	22	5	2	293	1.04	0.16	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	9893	6:30-7:30	22	5	4	329	1.03	0.14	No
		PM Peak	6777	3:30-4:30	22	5	2	293	1.04	0.18	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	614	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	462	3:30-4:30	0	0	0	0	1.00	0.00	No

Notes:

New PCES = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 4.11-6. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING CONSTRUCTION (2008) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION D)

	Route Segment	Period of Analysis (Weekday)	No Build (with Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	5684	6:30-7:30	29	9	2	479	1.08	0.35	No
		PM Peak	6395	3:30-4:30	36	9	2	486	1.08	0.32	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	476	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	236	3:30-4:30	0	0	0	0	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2657	6:30-7:30	3	2	0	97	1.04	0.16	No
		PM Peak	2763	3:30-4:30	4	2	0	98	1.04	0.15	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1816	6:30-7:30	3	5	0	238	1.13	0.53	No
		PM Peak	1758	3:30-4:30	3	5	0	238	1.14	0.55	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1195	6:30-7:30	3	5	0	238	1.20	0.79	No
		PM Peak	894	3:30-4:30	3	5	0	238	1.27	1.03	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1481	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	1241	3:30-4:30	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	3264	6:30-7:30	11	5	0	246	1.08	0.32	No
		PM Peak	2795	3:30-4:30	11	5	0	246	1.09	0.37	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	3479	6:30-7:30	204	0	0	204	1.06	0.25	No
		PM Peak	3016	3:30-4:30	204	0	0	204	1.07	0.28	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	10126	6:30-7:30	1	5	4	299	1.03	0.13	No
		PM Peak	7904	3:30-4:30	20	5	4	318	1.04	0.17	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	9893	6:30-7:30	21	5	4	319	1.03	0.14	No
		PM Peak	6782	3:30-4:30	21	5	4	319	1.05	0.20	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	614	6:30-7:30	0	0	0	0	1.00	0.00	No
		PM Peak	462	3:30-4:30	0	0	0	0	1.00	0.00	No

Notes:

New PCES = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 4.11-7. COMPARISON OF ANTICIPATED PCES IN THE FUTURE WITH THE PROJECT DURING OPERATIONS (2010) TO PCES IN THE FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT

Route Segment	Period of Analysis (Weekday)	No Build (with Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Impact Criteria Exceeded?
1 Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	5465	8:00-9:00	4	0	4	1.00	0.00	No
	PM Peak	6289	3:30-4:30	3	0	3	1.00	0.00	No
2 Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	200	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	236	3:30-4:30	0	0	0	1.00	0.00	No
3 Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2699	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	2845	3:30-4:30	0	0	0	1.00	0.00	No
4 Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1872	8:00-9:00	0	1	47	1.03	0.11	No
	PM Peak	1828	3:30-4:30	0	1	47	1.03	0.11	No
5 Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1195	8:00-9:00	0	1	47	1.04	0.17	No
	PM Peak	898	3:30-4:30	0	1	47	1.05	0.22	No
6 Bradhurst btw Grasslands and Lakeview	AM Peak	1555	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	1290	3:30-4:30	0	0	0	1.00	0.00	No
7 Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	3299	8:00-9:00	1	1	48	1.01	0.06	No
	PM Peak	2840	3:30-4:30	1	1	48	1.02	0.07	No
8 Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2838	8:00-9:00	17	0	17	1.01	0.03	No
	PM Peak	2687	3:30-4:30	17	0	17	1.01	0.03	No
9 Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	10210	8:00-9:00	2	1	49	1.00	0.02	No
	PM Peak	8076	3:30-4:30	2	1	49	1.01	0.03	No
10 Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	9761	8:00-9:00	2	2	96	1.01	0.04	No
	PM Peak	6788	3:30-4:30	2	2	96	1.01	0.06	No
11 Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	1023	8:00-9:00	0	0	0	1.00	0.00	No
	PM Peak	825	3:30-4:30	0	0	0	1.00	0.00	No

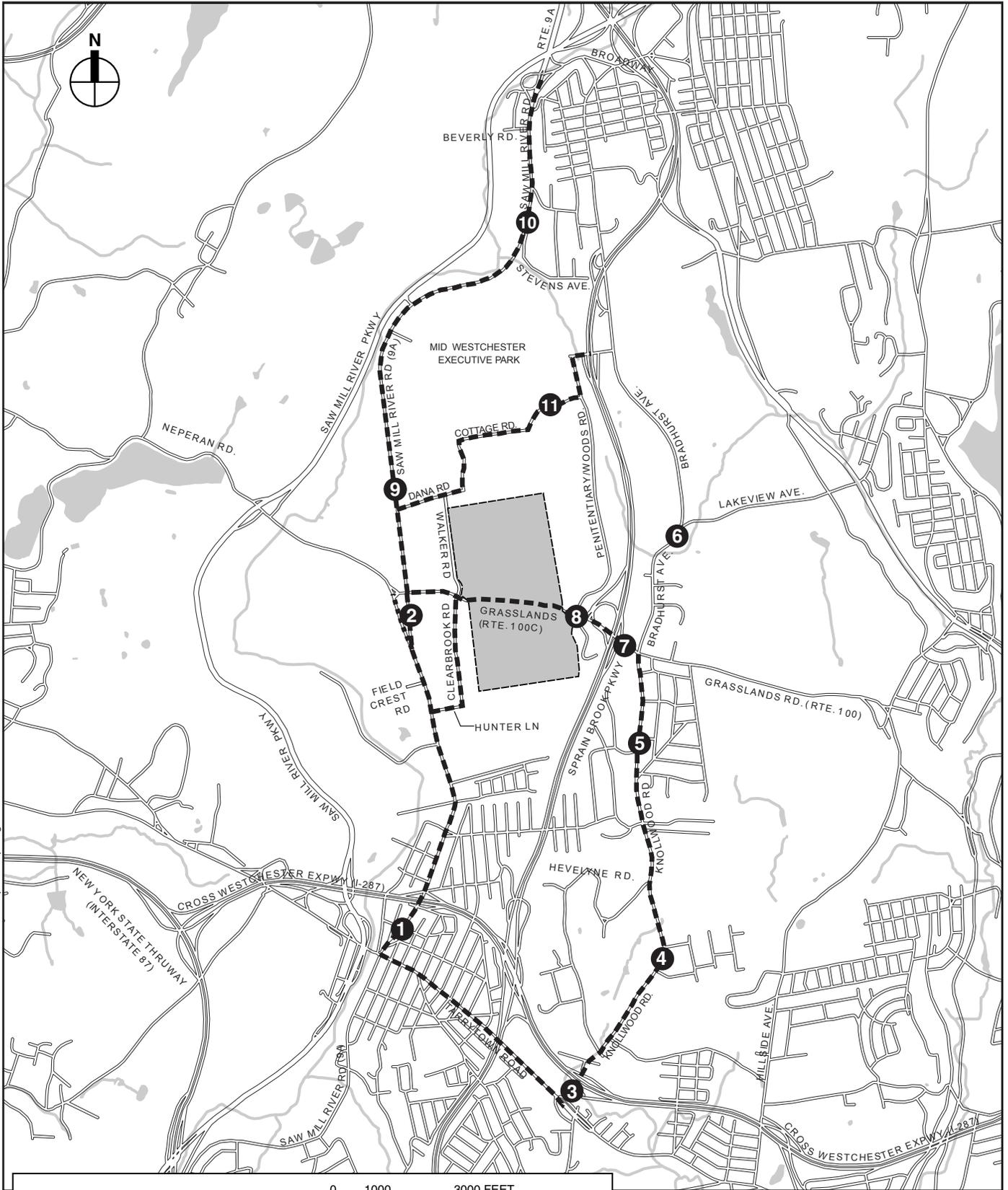
Notes:

New PCES = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

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SCALE

■ Eastview Site

---①--- Route Segments Considered or Mobile Source Noise Analysis

NOTE: Numbers correspond to route segments listed in Table 4.11- 8

Route Segments for Mobile Source Noise Analysis

Catskill/Delaware UV Facility

Figure 4.11-1

TABLE 4.11-8. ROUTE SEGMENTS CONSIDERED FOR MOBILE SOURCE NOISE ANALYSIS

No.	Route Segment
1	Saw Mill River Rd. (Route 9A) between Tarrytown-White Plains Rd (Route 119) and Cross Westchester Expressway (I-287)
2	Route 9A between Hunter Ln. and Grasslands Rd. (Route 100C)
3	Knollwood Rd. (Route 100A) between Route 119 and I-287
4	Route 100A between I-287 and Hevelyne Rd.
5	Route 100A between Hevelyne Rd. and Route 100C
6	Bradhurst Ave. between Route 100C and Lakeview Ave.
7	Route 100C between Bradhurst Ave. and Sprain Brook Pkwy
8	Route 100C between Sprain Brook Pkwy and Route 9A
9	Route 9A between Dana Rd. and Stevens Ave.
10	Route 9A between Stevens Ave. and Saw Mill River Pkwy
11	Dana Rd./Cottage Rd. between Route 9A and Penitentiary Rd.

Route segments that did not contain sensitive receptors along them were not considered for further noise analysis. For the site, the major thoroughfare for commercial vehicles (i.e., trucks) is the Cross Westchester Expressway (I-287) to the south. Commuter traffic (i.e., passenger cars) could use the Saw Mill River Parkway to the west and the Sprain Brook and Taconic State Parkway to the east. Therefore, the potential for noise impacts along those proposed facility's transportation routes connecting the I-287, Sprain Brook Parkway and Saw Mill River Parkway to the site was evaluated.

As shown in [Tables 4.11-1 through 4.11-4](#), none of the noise-sensitive route segments would experience a doubling of PCEs in the Future Without the Project (i.e., either without the Croton project or with the Croton project). It was concluded that the noise-sensitive route segments in the vicinity of the project site would not exceed the 3 to 5 dBA impact threshold established in the *CEQR Technical Manual*; therefore, noise-sensitive route segments associated with the proposed UV Facility at the Eastview Site were not examined further.

4.11.2.1.2. Stationary Source Noise

Stationary source noise monitoring was performed to establish existing baseline conditions at the Eastview Site. Baseline monitoring established the existing noisiest and quietest periods throughout the day at six potentially noise-sensitive receptor locations, as shown in [Table 4.11-9](#) and [Figure 4.11-2](#). Receptor EV-S1 represents the northern property boundary of the Eastview Site, which is located approximately 80 feet from the Westchester County Department of Laboratories and Research building (County Laboratory). Receptor EV-S2 represents the outdoor recreational area within the Westchester County Penitentiary property, which is located directly east of the project site's north parcel. Receptor EV-S3, the historic Hammond House, is a private residence located on the north parcel beside Route 100C. Measurements at Receptor EV-S4 were taken beside the County's Woodfield Cottage Juvenile Detention Center in Grasslands Reservation, north of the project site. Measurements at Receptor EV-S5 were taken along the eastern edge of the project site's south parcel, within a utility

easement that abuts residential properties along Taylor Road. Lastly, measurements at Receptor EV-S6 were taken along Taylor Road near residence no. 29.

TABLE 4.11-9. NOISE SENSITIVE RECEPTORS FOR STATIONARY SOURCE ANALYSIS

Receptor Name	Description of Receptors
EV-S1	County Laboratory
EV-S2	Westchester County Penitentiary
EV-S3	“Hammond House” - Residence at Route 100C and Hammond House Roads
EV-S4	Woodfield Cottage Juvenile Detention Center
EV-S5	Eastern edge of south parcel, beside Taylor Road residences
EV-S6	Taylor Road (Residence No. 29)

Baseline noise level measurements were collected for 24 hours on a weekday and weekend. This monitoring was performed in order to establish the period of the day with the potential for the greatest incremental change in noise. Monitoring periods were chosen to reflect both the anticipated construction and operation schedules at the proposed facility. The proposed UV Facility would operate on a continual basis (24 hours a day and 7 days a week). Construction activities are anticipated to take place on Monday through Friday from 7 AM to 4 PM.

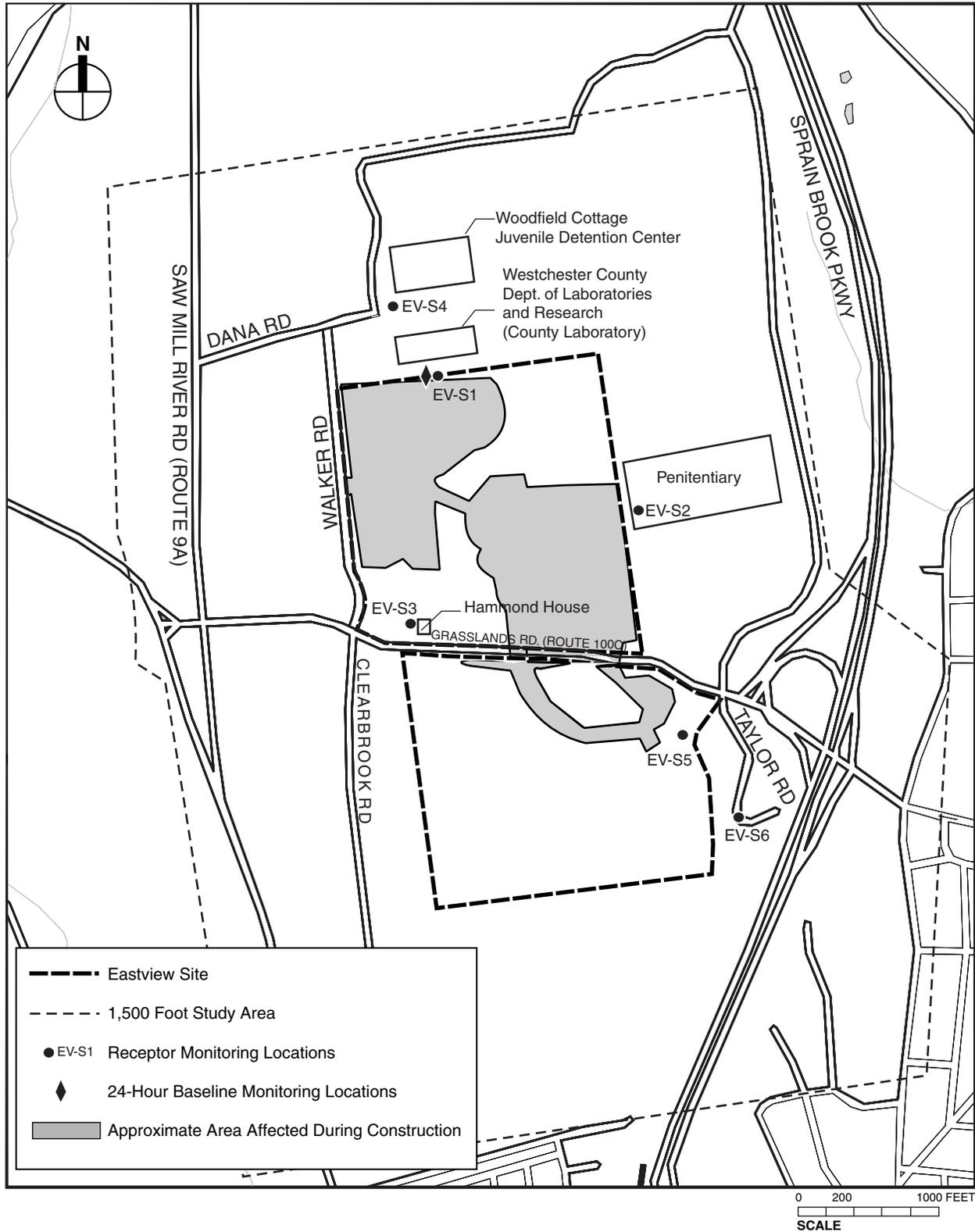
Twenty-four hour noise monitoring was performed at the northern property boundary of the Eastview Site, at Receptor EV-S1 (see [Figure 4.11-2](#)). The dominant existing noise source at this location was from the ventilation louvers situated on top of the County Laboratory.

The 24-hour baseline noise levels measured at Receptor EV-S1 on a weekday are presented in [Table 4.11-10](#). For proposed operating hours (i.e., 24 hours), the existing noise level during the quietest period (between 3 AM and 4 AM) had a L_{eq} of 52.2 dBA and the noisiest period (between 7 PM and 8 PM) had a L_{eq} of 58.4 dBA.

During the proposed construction hours (between 7 AM and 4 PM), existing noise level during the quietest period (12 PM through 1 PM, and 2 PM through 3 PM) had a L_{eq} of 52.8 dBA and the noisiest period (between 1 PM and 2 PM) had a L_{eq} of 57.5 dBA.

The 24-hour baseline noise levels measured on a Sunday are presented in [Table 4.11-11](#). For proposed operating hours (i.e., 24 hours), the existing noise level during the quietest period (between 3 AM and 4 AM) had a L_{eq} of 52.4 dBA, and the noisiest period (between 9 AM and 10 AM) had a L_{eq} of 58.5 dBA.

For proposed construction hours (between 7 AM and 4 PM) existing noise level during the quietest period (11 AM through 12 PM) had a L_{eq} of 53.5 dBA and the noisiest period (between 9 AM and 10 AM) had a L_{eq} of 58.5 dBA.



Stationary Noise Source Monitoring Locations

**TABLE 4.11-10. MEASURED 24-HOUR NOISE LEVELS (Leq) AT RECEPTOR
EV-S1 ON A WEEKDAY**

Hourly Leq (dBA)												
TIME	12	1	2	3	4	5	6	7	8	9	10	11
AM	52.5	53.1	53.4	52.2	52.5	52.7	55.4	55.6	53.4	55.3	54.1	54.4
PM	52.8	57.5	52.8	55.9	55.4	55.6	54.4	58.4	57.6	56.8	56.6	56.7

**TABLE 4.11-11. MEASURED 24-HOUR NOISE LEVELS (Leq) AT RECEPTOR
EV-S1 ON A SUNDAY**

Hourly Leq (dBA)												
TIME	12	1	2	3	4	5	6	7	8	9	10	11
AM	53.3	53.0	52.8	52.4	52.5	53.7	54.7	53.8	54.0	58.5	54.6	53.5
PM	54.1	54.7	53.7	54.4	55.2	55.3	58.0	57.0	55.7	54.5	54.3	53.7

Following the 24-hour baseline monitoring, 10-hour measurements were taken at Receptor EV-S5 near the Taylor Road residences. [Table 4.11-12](#) presents the 10-hour baseline noise levels measured during a weekday.

**TABLE 4.11-12. MEASURED 10-HOUR NOISE LEVELS (Leq) AT RECEPTOR
EV-S5 ON A WEEKDAY**

Hourly Leq (dBA)												
TIME	12	1	2	3	4	5	6	7	8	9	10	11
AM	NA	NA	NA	NA	NA	NA	NA	58.2	57.7	56.1	56.2	52.9
PM	55.1	52.9	53.6	54.2	52.8	NA	NA	NA	NA	NA	NA	NA

For proposed operating hours (i.e., 24 hours), the existing noise level, during the quietest period within the 10-hour period (between 4 PM and 5 PM) had a Leq of 52.8 dBA, and the noisiest period (between 7 AM and 8 AM) had a Leq of 58.2 dBA.

For proposed construction hours (between 7 AM and 4 PM) existing noise level during the quietest periods (11AM through 12 PM, and 1 PM through 2 PM) had a Leq of 52.9 dBA and the noisiest period (between 7 AM and 8 AM) had a Leq of 58.2 dBA.

Following 10-hour baseline monitoring, 20-minute measurements were taken during a weekday and weekend time periods at the receptors proximate to the site that may experience a noise impact due to construction and/or operational activities (see [Figure 4.11-2](#)). Measurements were conducted at each receptor during those hours that the receptor was sensitive to noise contributions, as determined by the baseline monitoring. Residences were assumed to be occupied (and therefore sensitive to noise contributions) at all times.

Twenty-minute monitoring periods and the Leq and L₁₀ noise levels at these proximate receptors are presented in [Table 4.11-13](#) as measured during a weekday and in [Table 4.11-14](#) as measured during a weekend. The noisiest and quietest time periods shown below correspond to those

TABLE 4.11-13. TWENTY-MINUTE MEASURED NOISE LEVELS AT SENSITIVE RECEPTORS ON A WEEKDAY (IN dBA)

Monitoring Location	Monitoring Period (based on Leq values)	Monitoring Time	Noise Level (Leq)	Noise Level (L ₁₀) ¹
EV-S1	Quietest Nighttime	3-5 AM	52.2	52.4
	Noisiest Nighttime	7-9 PM	58.4	57.2
	Quietest Daytime	2-3 PM	52.8	53.4
	Noisiest Daytime	1-2 PM	57.5	56.2
EV-S2	Quietest Nighttime	3-5 AM	53.4	53.8
	Noisiest Nighttime	7-9 PM	56.0	56.8
	Quietest Daytime	2-3 PM	56.3	57.6
	Noisiest Daytime	1-2 PM	56.6	57.2
EV-S3	Quietest Nighttime	3-5 AM	47.0	47.6
	Noisiest Nighttime	7-9 PM	60.6	62.0
	Quietest Daytime	2-3 PM	54.6	57.2
	Noisiest Daytime	1-2 PM	56.2	56.0
EV-S4	Quietest Nighttime	3-5 AM	51.1	51.4
	Noisiest Nighttime	7-9 PM	58.4	59.2
	Quietest Daytime	2-3 PM	56.7	58.0
	Noisiest Daytime	1-2 PM	58.7	60.2
EV-S5 ²	Quietest Nighttime	NA	NA	NA
	Noisiest Nighttime	NA	NA	NA
	Quietest Daytime	4-5 PM	52.8	58.0
	Noisiest Daytime	7-8 AM	58.2	58.4
EV-S6 ³	Quietest Nighttime	NA	NA	NA
	Noisiest Nighttime	NA	NA	NA
	Quietest Daytime	7-8 AM	59.0	60.0
	Noisiest Daytime	3-4 PM	62.1	63.0

Notes: ¹ Existing L₁₀ values correspond to the Leq noisiest and quietest time periods (noisiest and quietest L₁₀ noise levels may not correspond to these time periods)

² Based on 10-hour continuous daytime measurements.

³ Based on 20-minute spot measurements.

times as established by the initial baseline Leq noise levels monitored. Also shown are the L₁₀ values that correspond to these Leq noisiest and quietest time periods. Note, the noisiest or quietest L₁₀ noise levels may not correspond exactly with the noisiest and quietest Leq time periods, however, the L₁₀ and Leq values differ by less than 3.0 dBA.

TABLE 4.11-14. TWENTY-MINUTE MEASURED NOISE LEVELS AT SENSITIVE RECEPTORS ON A SUNDAY (LEQ, DBA)

Monitoring Location	Monitoring Period	Monitoring Time	Noise Level (Leq)	Noise Level (L ₁₀) ¹
EV-S1	Quietest	3-5 AM	52.4	52.8
	Noisiest	9-10 AM	58.5	55.0
EV-S2	Quietest	3-5 AM	47.3	48.2
	Noisiest	9-10 AM	48.4	49.2
EV-S3	Quietest	3-5 AM	47.0	47.8
	Noisiest	9-10 AM	51.4	52.6
EV-S4	Quietest	3-5 AM	51.2	51.8
	Noisiest	9-10 AM	56.0	57.0
EV-S5	Quietest	NA ²	NA	NA
	Noisiest	NA	NA	NA
EV-S6	Quietest	NA	NA	NA
	Noisiest	NA	NA	NA

Notes: ¹ Existing L₁₀ values correspond to the noisiest and quietest time periods based on the Leq values.

² Weekend noise level values were not obtained at receptors EV-S5 and EV-S6.

4.11.2.2. Future Without the Project

The Future Without the Project considers the anticipated peak years of construction¹ (2006 for stationary source noise and 2008 for mobile source) and the first full year of operation (2010) for the proposed facility. For each year, two scenarios are assessed: one in which the NYCDEP Croton project is not located on the Eastview Site and another in which the Croton project is located on the site, specifically in the northwest corner of the north parcel. By the peak construction year (2006), two additional NYCDEP projects could be located on the Eastview Site, namely a Police Precinct and an Administration/Laboratory Building. The Police Precinct has been approved by the Town of Mount Pleasant and would be located in the southwest corner of the north parcel. The Administration/Laboratory Building is less certain, however, as the Eastview Site is one of several properties currently being evaluated for use as a possible site for that particular building and no siting decision has been made. In addition to these projects, NYCDEP's Kensico-City Tunnel (KCT) may be under construction at the Eastview Site starting in 2009. Therefore, the 2010 analysis year considers the possibility of this project. All of these NYCDEP projects are analyzed in this Final Environmental Impact Statement to the extent to which information is available. They are all separate actions from the proposed facility and would undergo their own independent environmental reviews.

¹ The construction year when the greatest number of worker trips would be generated by the proposed project on a monthly basis (2008) was selected for the mobile source analysis. The anticipated year of construction for the stationary noise source analysis was determined by analyzing noise levels at receptors based on engineering projections of monthly construction-equipment loading. The year when the highest noise levels would be produced by construction activities at the project site (2006) was used as the analysis year for stationary construction noise. This is discussed in greater detail in the Potential Construction Impacts section below.

4.11.2.2.1. Without Croton Project at Eastview Site

Mobile Source Noise (2008 and 2010). Based on the results of the PCE screening analysis previously discussed, none of the identified noise-sensitive route segments in the site vicinity would experience a 3 dBA or more increase in noise levels due to the project for the peak mobile source construction year (2008) and the build year (2010). As a result, the Future Without the Project traffic volumes and related noise levels along the transportation roadways leading to and from the site did not require further analysis.

Stationary Source Noise (2006 and 2010). Future baseline noise levels at proximate receptor locations for the construction and operation phases of the proposed facility were determined for the peak stationary source construction year (2006) and the build year (2010) while construction noise would be generated by some of the NYCDEP projects identified above. The construction activities for the other NYCDEP projects are considered to be much smaller in scale and not a significant contributor to the analysis. As such, the future baseline noise levels at local receptors for the operations and construction noise analysis years were determined without incorporating potential noise contributions from these projects and therefore, were not anticipated to change from those existing noise levels measured during the noise-monitoring program.

4.11.2.2.2. With Croton Project at Eastview Site

Construction of the Croton Project.

Mobile Source Noise. Potential increments from project-related mobile sources used during the construction phase of the Croton project were projected to be less than 3 dBA at the identified noise-sensitive route segments in the vicinity of the Eastview Site for the peak mobile analysis year.

Stationary Source Noise. Potential increments resulting from the use of on-site equipment during construction activities from the Croton project were projected for the peak stationary analysis year at receptors on and near the Eastview Site. Potential increases of 20 to 24.7 dBA would occur at the County Laboratory, and potential increases of 21.2 to 21.5 dBA would occur at the Penitentiary. Potential increases of 7 to 8.3 dBA would occur at the Hammond House, and potential increases of 9.7 to 11.5 dBA would occur at the Juvenile Detention Center.

Combined Mobile and Stationary Source Noise. The County Laboratory, Hammond House, and Juvenile Detention Center each could be exposed to the combined effect of both mobile and stationary noise generated by construction of the Croton project. The greatest incremental change from mobile sources is predicted to occur in 2006 and the greatest incremental change from stationary sources is predicted to occur in 2005. Although these years are different, the two peak years were combined in order to predict the worst-case scenario. This is the most conservative approach and could over-estimate combined noise levels. The potential

incremental change in mobile source noise levels due to construction activities of the Croton project would be less than 0.5 dBA for the route segments along which these sensitive receptors are located. The noise level increases at the receptor sites would be affected predominantly by the stationary noise sources.

Vibration from Construction. Due to the magnitude of the Croton project, it is possible that excavation activities may cause vibrations. Vibrations could occur due to rock blasting activities and from tunnel boring machine (TBMs). The Croton project would be constructed in the northwestern corner of the Eastview Site, near the County Laboratory, which is located immediately north of the site. The County Laboratory is potentially sensitive to vibrations. Measures used to reduce impacts would include the following: use of delays on charge weight during rock blasting; proper pre-blast testing and blast design; notification of sensitive receptors ahead of blasting activities; and employment of a vibrations monitoring program for the TBM.

Operation of the Croton Project.

Mobile Source Noise. The contribution from mobile sources at sensitive receptors due to operation of the Croton project on the Eastview Site were projected. Potential noise increments from project-generated mobile sources would be less than 3 dBA during operations.

Stationary Source Noise. Potential noise increments of less than 3 dBA would result from operation of the Croton project at the receptors (County Laboratory, Penitentiary, Hammond House and Juvenile Detention Center).

Combined Mobile and Stationary Source Noise. Potential noise increments due to the combined effect of both mobile and stationary noise resulting from operation of the Croton project were projected at these receptors. These noise increments would be less than 3dBA during operations.

4.11.3. Potential Impacts

4.11.3.1. Potential Project Impacts

The first full year of operation for the proposed UV Facility would be 2010. Therefore, potential project-induced noise level increases were assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2010.

4.11.3.1.1. Without Croton Project at Eastview Site

The potential additional noise generated by the proposed facility during normal operations was analyzed at sensitive receptor locations in the vicinity of the Eastview Site. As part of the mobile and stationary source analysis, future noise levels for the Future With the Project year (2010) were projected by adding the noise contribution from equipment used during operations to the Future Without the Project noise level. The analysis year for operations at the site was 2010.

The proposed UV Facility site falls within the jurisdictions of the Town of Mount Pleasant and Town of Greenburgh. Tables 4.11-15 and 4.11-16 present limitations to noise levels from operations as presented in the Code of the Town of Mount Pleasant and Code of the Town of Greenburgh. The Town of Mount Pleasant's ordinance states that no device shall operate that produces a sound level exceeding the limitations stated in these Tables. As opposed to the CEQR incremental threshold, Mount Pleasant's noise level limits are absolute values that limit the amount of noise that the proposed facility may generate. In addition to the 3 to 5 dBA impact threshold established under CEQR, the future operations-induced noise levels would be compared to these sound level limits to show the project's compliance with the Town Code.

Receptors surrounding the site are in areas zoned as residential (R-20 and R-40). As prescribed in the Town of Mount Pleasant noise ordinance, noise levels within any residential-zoned district shall not exceed the noise levels resulting from operations presented below.

TABLE 4.11-15. NOISE LIMITS¹ FOR OPERATIONS IN TOWN OF MOUNT PLEASANT (Leq, dBA)

Daytime		Nighttime	
Residential	Commercial	Residential	Commercial
65	65	55	65

Notes:

¹Source: Code of the Town of Mount Pleasant, New York, Part II, Chapter 139 (Noise), Article IV.

TABLE 4.11-16. NOISE LIMITS FOR OPERATIONS IN TOWN OF GREENBURGH¹ (Leq, dBA)

Residential (Daytime and Nighttime)	Other Districts		
	8:00 pm – 8:00 am (Sunday – Saturday)	5:00 pm Saturday – 10:00 am Sunday	12:01 am and 11:59 pm on Holidays
65	70	65	65

Notes:

¹Source: Code of the Town of Greenburgh, New York, Volume 12, Chapter 380 (Noise).

Mobile Source Noise. Potential impacts from mobile noise sources resulting from the proposed UV Facility operations were assessed. As discussed above, 2010 was selected as the peak year for this analysis. The preliminary PCE screening analysis previously discussed was used to determine whether project-induced traffic would result in a doubling or more of the existing PCEs present along the noise-sensitive route segments identified in the vicinity of the site. In accordance with the provisions outlined in the *CEQR Technical Manual*, a doubling of PCEs along a noise study route segment corresponds to an increase of 3 dBA. This increase would prompt a detailed analysis. However, on the basis of the preliminary PCE analysis (Tables 4.11-2 in Section 4.11.2.1.1), it was determined that none of the identified noise-sensitive route segments would experience a doubling of PCEs, therefore, it was concluded that the contribution from mobile sources to the total project-generated noise experienced at sensitive receptors would not result in a 3 dBA or more increase in noise levels.

Stationary Source Noise. The Future With the Project noise levels at each of the receptors was established by adding the noise contribution from operations to the baseline Future Without the Project noise levels for the analysis year 2010. Potential impacts from noise

generated by the equipment used during normal operations at the Eastview Site were determined for the sensitive receptors identified near the UV Facility. Figure 4.11-2 shows the location of the sensitive receptors.

Engineering drawings were used to determine the location of each piece of equipment within the facility in order to establish the distance from the equipment to each receptor. Also considered in this analysis was the attenuation that resulted from the thickness and composition of the proposed facility walls through which noise from operations would travel. Walls within the proposed facility would serve as noise barriers providing a minimum 35 dBA attenuation.

A noise prediction algorithm was used to calculate the noise levels resulting from plant operations at each of the receptors as described in Section 3.11, **Data Collection and Impact Methodologies, Noise**. The noise algorithm³ considered the noise levels of operations equipment, the distance from the equipment to the receptor, and the noise attenuation resulting from walls within the facility. The algorithm is presented and discussed in greater detail in Section 3.11, **Data Collection and Impact Methodologies, Noise**. Equipment that generated more than 55 dBA was considered in this analysis, based on manufacturer published near-field noise specifications for the equipment. Equipment noise levels below 55 dBA were assumed ineligibile due to the large distance between the proposed UV Facility and nearest receptor (approximately greater than 1000 feet), and therefore, were not accounted for in this analysis.

For the purpose of this analysis, it was assumed that the facility was running at maximum capacity, which would correspond to the maximum possible operations noise. Table 4.11-17 presents the proposed facility operations equipment (including the associated noise level and quantity of each equipment) that would be used at the proposed facility. For each identified piece of equipment, the noise level under normal operating conditions was established from manufacturer's specifications.

TABLE 4.11-17. OPERATIONS EQUIPMENT DATA FOR EASTVIEW SITE

Equipment Name	Number of Equipment¹	Equipment Noise Level (dBA)²	Reference Distance (feet)³
UV FACILITY			
48-inch gate valve	56	<85	3
Limitorque Electric Operator	56	<85	3
48-inch Flow Meter	56	<85	3
UV Chamber	56	70	3
48-inch Butter Fly Valve	56	<85	3
Limitorque Electric Operator	56	<85	3
Monorail	16	64	3.3
Acid Transfer Pumps	8	65	3.3
PLUMBING			
Sewage Ejectors	4	30	3

³ City of New York. October 2001. *CEQR Technical Manual* Section 333.3 page 3R-15 and -16.

TABLE 4.11-17. OPERATIONS EQUIPMENT DATA FOR EASTVIEW SITE

Equipment Name	Number of Equipment¹	Equipment Noise Level (dBA)²	Reference Distance (feet)³
PLUMBING (cont'd)			
Duplex Sewage Ejectors	2	30	3
House Water Service Pumps	6	85	3
SHAFT NO. 19/NORTH FOREBAY			
5'x15' Sluice Gate (motorized)	10		
Limitorque Electric Operator	41	<85	3
84-inch motorized Sleeve Valves	8	<85	3
25 Ton Bridge Crane	1		
84-inch Butterfly Valve	16	<85	3
120-inch Butterfly Valve	2	<85	3
144-inch Butterfly Valve	4	<85	3
600-mgd Hydro-Turbine	1		
Bonneted Gate Valve	1		
Sump Pumps	3	30	3
SOUTH FOREBAY			
13'x13' Roller Gates	4		
Limitorque Electric Operator	4	<85	3
Weir (Flow)	1		
Sump Pumps	3	30	3
CATSKILL AQUEDUCT			
Weir (Flow)	1		
YARD PIPING			
144-inch Butterfly Valve	6	<85	3
Limitorque Electric Operator	10	<85	3
120-inch Butterfly Valve	4	<85	3
Flow Meter	6	83	3.3
Energy Dissipation Valve	56	<90	1
GENERATOR BUILDING			
Diesel Generator	1		
Exhaust	1	<65	50
Cooling Fan	1	70	6
Engine	1		
UV FACILITY - ELECTRICAL			
UPS		74	3
Substation Transformers		65	3
Utility Service Transformers		76	3
Lighting Transformers	2	45	3
Equipment Transformers (for units)			
UV FACILITY - HVAC			
HW Boiler	3	<85	3
Fan	3	<85	3
Fuel Oil Pump	3	<85	3

TABLE 4.11-17. OPERATIONS EQUIPMENT DATA FOR EASTVIEW SITE

Equipment Name	Number of Equipment¹	Equipment Noise Level (dBA)²	Reference Distance (feet)³
UV FACILITY – HVAC (cont'd)			
HW Circulation Pump	3	<85	3
Air Compressor	3	<85	3
Duplex Fuel Oil Pump	1	<85	3
HW Pump	9	<85	3
Air Handling Unit (AC)	4	<85	3
Heating & Ventilating Unit	4	<85	3
Return / Exhaust Fan	4	<85	3
Exhaust Fan	4	<85	3
Dehumidification Unit	4	<85	3
Supply Fan	4	<85	3
Reactivation Air Fan	4	<85	3
Reactivation Air Heater	4	<85	3
Air Cooled Condenser for AC Units	4	<85	3
Compressors	8	<85	3
Condenser Fan	44	<85	3
CRAC – Large Size 380A	4	<85	3
Compressor	20	68	3.3
Fan	28	<85	3
Heating Coil (3 Stage)	12	<85	3
CRAC – Medium Size 199A	4	<85	3
CRAC – Small Size	4	<85	3
Air Cooled Condenser for CRAC Units – Large	4	<85	3
Heater	12	<85	3
Air Cooled Condenser for CRAC Units – Medium	4	<85	3
Air Cooled Condenser for CRAC Units – Small	4	<85	3

Notes:

¹ Equipment to be used in UV Facility established from engineering drawings.

² Noise levels established by contacting manufacturer or used comparable equipment data from Croton project.

³ Reference distance from contacting manufacturer.

Normal operations at the completed UV Facility are not anticipated to vary greatly over the course of a day. Noise levels from normal operations equipment, therefore, also are not anticipated to vary due to equipment noise levels. Since the proposed facility would operate continuously (24 hours a day and 7 days a week), both daytime and nighttime analyses were conducted for weekday and weekend time periods. Also, four emergency generators would be included in the proposed facility and would operate during emergency conditions. Emergency equipment is typically exempt from local and State noise codes during an actual emergency condition; however, it is not exempt during periodic maintenance testing of the equipment. The

proposed emergency generators are scheduled to be tested individually for one hour per week during the weekdays. Therefore, three separate scenarios were analyzed as described below:

- Scenario A: The first scenario considered normal operations on weekdays without the emergency generators.
- Scenario B: The second scenario considers maintenance testing operating conditions on weekdays for the emergency generators.
- Scenario C: The third scenario considered normal operations on weekends without the emergency generators.

Following the calculation of noise levels at sensitive receptors resulting from the proposed facility operations, the contribution from operations was logarithmically added to the measured outside baseline noise level for the future analysis year (2010) in order to derive the future with operations noise levels outside, at each receptor location.

Scenario A: Table 4.11-18 compares future baseline noise levels with the future anticipated normal operations noise levels at each receptor during the noisiest and quietest weekday hours (daytime/nighttime hours, whichever the quietest/noisiest time periods fall into). It is anticipated that receptor EV-S6 would have the highest noise levels of 62.1 dBA from 3 to 4 PM. The greatest incremental change would be 0.1 dBA at receptor EV-S3. It was concluded, therefore, that the contribution of stationary source noise to the total noise generated from normal operations and experienced at sensitive receptors during weekdays would not exceed the 3 to 5 dBA threshold used to define significance using established CEQR criteria.

In addition, predicted noise levels generated from normal operations (without the emergency generators operating) during these hours would not exceed the Town of Mount Pleasant's daytime noise level limits of 65 dBA or the nighttime noise level limit of 55 dBA for a residential zone, or exceed the 65 dBA daytime/nighttime criteria for a commercial zone. These predicted noise levels would also not exceed the Town of Greenburgh noise level limit of 65 dBA both during the daytime and nighttime for a residential district, and the noise level limit of 70 dBA for non-residential district.

Scenario B: Table 4.11-19 compares future baseline noise levels with the future with operations noise levels at each receptor during the noisiest and quietest weekday hours for maintenance testing operating conditions with the four emergency generators operating. The greatest incremental change experienced at any of the sensitive receptors would be 1.7 dBA. It was concluded that the noise generated from maintenance testing operations and experienced at identified sensitive receptors only during daytime weekday hours would not exceed the maximum allowable project-induced increase of 3 to 5 dBA threshold used to define significance using established CEQR criteria. Future with maintenance testing operations noise levels were not analyzed during the nighttime hours, since the emergency generator would only be tested during business hours between 9 AM and 5 PM.

TABLE 4.11-18. SCENARIO A: MAXIMUM NOISE LEVELS FROM NORMAL OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKDAY (Leq, dBA)

Proximate Receptor	Monitoring Period	Future Without Project Noise Level (Leq)	Predicted Operations Noise Level	Total Future Operations Noise Level ¹	Incremental Change	Impact Threshold	Exceed Threshold (Yes/No)	Town Noise Code Compliance ²
EV-S1	3-5 am (Quietest)	52.2	23.1	52.2	0.0	3.0	No	Meets
	7-9 pm (Noisiest)	58.4	23.1	58.4	0.0	5.0	No	Meets
EV-S2	3-5 am (Quietest)	53.4	27.7	53.4	0.0	3.0	No	Meets
	1-2 pm (Noisiest)	56.6	27.7	56.6	0.0	5.0	No	Meets
EV-S3	3-5 am (Quietest)	47.0	28.8	47.1	0.1	3.0	No	Meets
	7-9 pm (Noisiest)	60.6	28.8	60.6	0.0	4.0	No	Meets
EV-S4	3-5 am (Quietest)	51.1	21.4	51.1	0.0	3.0	No	Meets
	1-2 pm (Noisiest)	58.7	21.4	58.7	0.0	5.0	No	Meets
EV-S5	4-5 pm (Quietest)	52.8	21.1	52.8	0.0	5.0	No	Meets
	7-8 am (Noisiest)	58.2	21.1	58.2	0.0	5.0	No	Meets
EV-S6	7-8 am (Quietest)	59.0	19.1	59.0	0.0	5.0	No	Meets
	3-4 pm (Noisiest)	62.1	19.1	62.1	0.0	3.0	No	Meets

Notes:

¹Total Noise Level During Normal Weekday Operations based on logarithmic addition of Future Without Project and Predicted Operations Noise Level.

² Town Noise Code Compliance: Town of Mount Pleasant and Town of Greenburgh.

In addition, predicted noise levels generated from maintenance testing operating conditions of the proposed UV Facility during these hours would meet the Town of Mount Pleasant’s daytime noise level limits of 65 dBA. The predicted levels would achieve the Town of Mount Pleasant’s noise limit of 70 dBA for a commercial zone. Also, the Town of Greenburgh’s noise limit of 65 dBA for a residential district and 70 dBA for a non-residential district would be achieved during maintenance testing operations.

Scenario C: [Table 4.11-20](#) compares future baseline noise levels with the future with normal operations noise levels at each receptor on during weekends (without emergency generators operating). The greatest incremental change experienced at any of the sensitive receptors would be 0.1 dBA. It was concluded that the contribution of stationary source noise to the total noise generated from normal operations and experienced at identified sensitive receptors during weekend hours would not exceed the maximum allowable project-induced increase of 3 to 5 dBA threshold used to define significance using established CEQR criteria.

TABLE 4.11-19. SCENARIO B: MAXIMUM NOISE LEVELS FROM MAINTENANCE TESTING OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKDAY (Leq, dBA)

Proximate Receptor	Monitoring Period	Future Without Project Noise Level (Leq)	Predicted Operations Noise Level	Total Future Operations Noise Level ¹	Incremental Change	Impact Threshold	Exceed Threshold (Yes/No)	Town Noise Code Compliance ²
EV-S1	2-3 pm (Quietest)	52.8	37.5	52.9	0.1	5.0	No	Meets
	1-2 pm (Noisiest)	57.5	37.5	57.5	0.0	5.0	No	Meets
EV-S2	2-3 pm (Quietest)	56.3	46.3	56.7	0.4	5.0	No	Meets
	1-2 pm (Noisiest)	56.6	46.3	57.0	0.4	5.0	No	Meets
EV-S3	2-3 pm (Quietest)	54.6	45.4	55.1	0.5	5.0	No	Meets
	1-2 pm (Noisiest)	56.2	45.4	56.5	0.3	5.0	No	Meets
EV-S4	2-3 pm (Quietest)	56.7	36.1	56.7	0.0	5.0	No	Meets
	1-2 pm (Noisiest)	58.7	36.1	58.7	0.0	5.0	No	Meets
EV-S5	4-5 pm (Quietest)	52.8	40.3	53.0	0.2	5.0	No	Meets
	10-11 am (Noisiest)	56.2	40.3	56.3	0.1	5.0	No	Meets
EV-S6	7-8 am (Quietest)	59.0	37.7	59.0	0.0	5.0	No	Meets
	3-4 pm (Noisiest)	62.1	37.7	62.1	0.0	3.0	No	Meets

Notes:

¹Total Noise Level During Maintenance Testing Operations based on logarithmic addition of Future Without Project and Predicted Operations Noise Level.

² Town Noise Code Compliance: Town of Mount Pleasant and Town of Greenburgh.

In addition, predicted noise levels generated from normal facility operations for these hours during a weekend would not exceed the Town of Mount Pleasant’s daytime noise level limits of 65 dBA for a residential zone, or 65 dBA for a commercial zone. These predicted noise levels would also not exceed the Town of Greenburgh noise level limit of 65 dBA both during the daytime and nighttime for a residential district, and the weekend noise level limit of 70 dBA for non-residential district.

TABLE 4.11-20. SCENARIO C: MAXIMUM NOISE LEVELS FROM NORMAL OPERATIONS (2010) AT SENSITIVE RECEPTORS NEAR EASTVIEW SITE DURING WEEKEND (Leq, dBA)

Proximate Receptor	Monitoring Period	Future Without Project Noise Level (Leq)	Predicted Operations Noise Level	Total Future Operations Noise Level ¹	Incremental Change	Impact Threshold	Exceed Threshold (Yes/No)	Town Noise Code Compliance ²
EV-S1	3-5 am (Quietest)	52.4	23.1	52.4	0.0	3.0	No	Meets
	9-10 am (Noisiest)	58.5	23.1	58.5	0.0	5.0	No	Meets
EV-S2	3-5 am (Quietest)	47.3	27.7	47.3	0.0	3.0	No	Meets
	9-10 am (Noisiest)	48.4	27.7	48.4	0.0	5.0	No	Meets
EV-S3	3-5 am (Quietest)	47.0	28.8	47.1	0.1	3.0	No	Meets
	9-10 am (Noisiest)	51.4	28.8	51.4	0.0	5.0	No	Meets
EV-S4	3-5 am (Quietest)	51.2	21.4	51.2	0.0	3.0	No	Meets
	9-10 am (Noisiest)	56.0	21.4	56.0	0.0	5.0	No	Meets
EV-S5 ³	4-5 pm (Quietest)	52.8	21.1	52.8	0.0	5.0	No	Meets
	7-8 am (Noisiest)	58.2	21.1	58.2	0.0	5.0	No	Meets
EV-S6 ³	7-8 am (Quietest)	59.0	19.1	59.0	0.0	5.0	No	Meets
	3-4 pm (Noisiest)	62.1	19.1	62.1	0.0	3.0	No	Meets

Notes:

¹Total Noise Level During Normal Weekend Operations based on logarithmic addition of Future Without Project and Predicted Operations Noise Level.

²Town Noise Code Compliance: Town of Mount Pleasant and Town of Greenburgh.

³Weekend Baseline Noise Levels not obtained for EV-S5 and -S6. Used Weekday Noise Level.

Combined Mobile and Stationary Source Noise. The County Laboratory, Hammond House, and the Juvenile Detention Center (EV-S1, EV-S3, and EV-S4, respectively) each could be exposed to the combined effect of both mobile and stationary noise generated by the proposed UV Facility. The greatest incremental change in stationary source noise for any of the three operations scenarios presented above would be 1.7 dBA (see [Table 4.11-19](#)) at Hammond House during weekday maintenance testing of the four emergency generators which would occur infrequently (i.e., four hours per month). Based on the PCE screen presented in [Table 4.11-2](#), the potential incremental change in noise level for the route segment along which the Hammond House is located is less than one decibel. The combined effect of these noise sources due to operations activities would not produce an increase in noise levels that would exceed the 3 to 5 dBA significance threshold.

4.11.3.1.2. With Croton Project at Eastview Site

Mobile Source Noise. Potential impacts from project-related mobile sources used during operations of the proposed facility were determined for the analysis year (2010) at noise-sensitive route segments in the vicinity of the Eastview Site. As previously discussed, the future PCEs from the proposed facility were compared to PCEs in the Future Without the Project (with the Croton project). Based on the PCE screening analysis, it was determined that none of the identified noise-sensitive route segments in the vicinity of the Eastview Site would experience a 3 dBA or more incremental change in noise levels due to operational mobile sources. Therefore, it was concluded that the contribution from mobile source noise would not result in an exceedence of the 3 to 5 dBA threshold.

Stationary Source Noise. The Future With the Project noise levels at each of the receptors were established by adding the noise contribution from operations to the baseline Future Without the Project (with the Croton project) noise levels for the analysis year 2010. Potential impacts from noise generated by the equipment used during normal operations at the Eastview Site were determined for the sensitive receptors identified near the proposed UV Facility and shown in [Figure 4.11-2](#).

A noise prediction algorithm was used to predict these levels as described in [Section 3.11, Data Collection and Impact Methodologies, Noise](#). The contribution from operations was logarithmically added to the measured outside baseline noise levels (with the Croton project) for the future analysis year (2010) in order to derive the future outdoor noise levels at a location near each receptor during operations of the facility (with the Croton project). Predicted future noise levels for normal operations were compared to future baseline noise levels (with the Croton project (truck-delivery hours and non-truck delivery hours) at each receptor during the noisiest and quietest weekday and weekend hours.

The Future With the Project (with the Croton project)⁴ noise levels for the analysis year 2010 would remain the same as the noise levels predicted in [Table 4.11-18](#) for normal operating conditions with the UV Facility alone.

Combined Mobile and Stationary Source Noise.

The County Laboratory, Hammond House, and the Juvenile Detention Center (EV-S1, EV-S3, and EV-S4, respectively) each could be exposed to the combined effect of both mobile and stationary noise generated by the proposed UV Facility. The combined effect of the mobile and stationary noise sources due to operations activities would not produce an increase in noise levels that would exceed the 3 to 5 dBA significance threshold.

⁴ For both non-delivery and delivery hours. *Croton Water Treatment Plant Final Supplemental Environmental Impact Statement*, June 2004.

4.11.3.2. Potential Construction Impacts

Potential noise impacts due to construction activities were analyzed for mobile and stationary source noise. Peak construction noise levels were compared to noise levels in the Future Without the Project for two scenarios: one in which the NYCDEP Croton project is not under construction and another in which the Croton project is under construction at the Eastview Site.

The anticipated peak year for construction-related peak mobile source noise during construction is 2008. The anticipated peak year for stationary source noise during construction is 2006. Construction activities at the Eastview Site are scheduled to take place between April 2005 and September 2009. The work would take place between 7 AM and 4 PM on weekdays.

The anticipated peak year for stationary source noise during construction is divided between November and December 2005, during heavy construction activity at the north parcel of the site, and August through December 2006, during heavy construction activity at the north and south parcels of the site. See Figure 4.11-3 for an illustration of the anticipated construction activity zones. Note: Figure 4.11-3 depicts the primary areas of disturbance based on site engineering drawings. The levels of construction activity shown were used only as a guide, such that not all construction activity areas were included in the detailed construction noise analysis since the locations extended beyond the property line or would not contribute appreciably for the duration of construction activity.

The Eastview Site is located in the Towns of Mount Pleasant and Greenburgh. Table 4.11-21 presents noise standards governing construction activity in the Town of Mount Pleasant. The only restrictions or limits on noise standards governing construction activity in the Town of Greenburgh restrict the hours of construction activity between 8:00 PM and 7:00 AM Monday through Friday; before 9:00 AM or after 6:00 PM on Saturday; and between 12:01 AM and 11:59 PM on any Sunday or recognized holiday.

TABLE 4.11-21. NOISE LIMITS¹ FOR CONSTRUCTION ACTIVITY IN TOWN OF MOUNT PLEASANT² (L₁₀, dBA)

Daytime (8:00 am – 6:00 pm)		Nighttime (6:00 pm – 8:00 am)	
Residential Zones	Commercial Zones	Residential Zones	Commercial Zones
70	75	55	80

Notes:

¹Noise levels as measured from 400 feet from construction site.

²Source: Code of the Town of Mount Pleasant, New York, Part II, Chapter 139 (Noise), Article IV

In Mount Pleasant, the Eastview Site lies within a “Public Utility/Office Building” (OB-2) zoning district. Receptors surrounding the site are in areas zoned as residential (R-20 and R-40). As stated in the Code of the Town of Mount Pleasant, noise levels from a construction site shall not exceed the noise limits presented above. In addition to the absolute limits presented above, the Town of Mount Pleasant prohibits construction activity between the hours of 9:00 PM and 7:00 AM on weekdays. Standards to determine significant adverse impacts as established by CEQR were used to evaluate any impacts to this site because the CEQR guidelines are more restrictive than the noise limits enforced by the Town of Mount Pleasant. Applicable standards

relating to single-family residences were applied to the area surrounding the Eastview Site, which is zoned as single family residential. According to CEQR, a project-generated increase of 5 dBA or more over the baseline noise level recorded at a sensitive receptor during the daytime is considered a significant impact if the existing noise level is less than 60 dBA. If the existing noise level is 62 dBA, a 3 dBA or more incremental change constitutes a significant impact. A more restrictive (3 dBA incremental threshold) applies during the nighttime.⁵

4.11.3.2.1. Without Croton Project at Eastview Site

Mobile Source Noise (2008). Potential impacts from project-related mobile sources used during the construction phase of the proposed facility were determined for the analysis year (2008) at noise-sensitive route segments in the vicinity of the Eastview Site. As previously discussed, on the basis of the PCE screening analysis, it was determined that none of the identified noise-sensitive route segments in the vicinity of the Eastview Site would experience a 3 dBA or more incremental change in noise levels due to mobile source construction activities. Therefore, it was concluded that the contribution from mobile source noise to the total construction-related noise would not result in an exceedence of the 3 to 5 dBA threshold.

Stationary Source Noise (2006). Potential noise impacts resulting from the use of on-site equipment during construction activities were determined for the receptors proximate to the Eastview Site. The analysis year 2006 was used since it represented the year with the highest construction-related stationary noise levels. The maximum projected monthly noise level from construction activities was added to the future baseline value as it represented the worst case scenario. Analysis of potential construction-induced noise took into account the variability of noise emissions over the course of the construction due to changing construction conditions. Noise levels from all construction related equipment would vary over the course of the construction schedule. Construction equipment use would be intermittent and variable during a normal work day. In addition, the location of equipment would vary during the course of a day as equipment would move between areas on the site. Finally, the precise equipment tally would vary from period to period as the phases of construction change over the entirety of the project.

A noise prediction algorithm⁶ (that considered equipment noise levels, usage factors, and distances from source to receptor discussed below) was used to calculate the average noise level at a proximate receptor for a typical hour for each month of construction. The algorithm is presented and discussed in greater detail in [Section 3.11, Data Collection and Impact Methodologies, Noise](#).

A monthly breakdown of anticipated equipment for the duration of the project was obtained from engineering construction plans. Relevant equipment noise levels for construction equipment were determined from industry and governmental publications. Usage factors were used to account for the fact that construction equipment use is intermittent throughout the course of a normal work day. A random-number generator was employed to account for equipment locations being variable. Certain pieces of equipment that would only be used within the footprint of the proposed facility (e.g. rock drills) were restricted to this area on the site. The

⁵ City of New York. October 2001. *CEQR Technical Manual* Section 335.0 page 3R-18.

⁶ City of New York. October 2001. *CEQR Technical Manual* Section 333.3 page 3R-15 and -16.

remaining construction equipment was randomly placed over the entire site. In this manner, horizontal and vertical distances from construction equipment to the receptors being studied were established for each month in order to calculate the line-of-sight distance between the noise source and the sensitive receptor. Table 4.11-22 presents construction equipment, including associated noise levels and usage factors, anticipated for use over the course of construction at the Eastview Site. The rock drill is anticipated to be the noisiest piece of equipment, and is estimated to have a noise level of 98 dBA at a distance of 50 feet. Equipment noise levels (at their associated reference distances) and the usage factors are standard values established through noise studies. The reference for this study is provided at the bottom of the table.

TABLE 4.11-22. UV FACILITY: NOISE LEVELS AND USAGE FACTORS FOR CONSTRUCTION EQUIPMENT USED AT EASTVIEW SITE ¹

Equipment	Equipment Noise Level (dBA)	Reference Distance (feet)	Usage Factor				
			Clearing	Excavation	Foundation	Erection	Finishing
Grader	85	50	0.08				0.02
Crane 50-Ton Hydraulic	83	50	³			0.16	0.04
Wood Chipper ²	93	50	0.08				
Backhoe	85	50	0.04	0.16			0.04
Loader	84	50	0.16	0.04			0.16
Dump Truck ^{4, 5}	80	50	0.16	0.4			0.16
Pick-up Truck ⁶	75	50	0.16	0.4			0.16
Air Compressor- 600 C	81	50		1.0	0.4	0.4	0.4
Rock Drill	98	50		0.04			0.005
Rock Crusher ²	93	50		0.04			0.005
Tree Shear ²	78	50	0.08				
Tree Hauler ²	91	50	0.16	0.16			0.16
Hydraulic Excavator	80	50	0.04	0.16			0.04
Scraper	88	50	0.14				0.08
Large Dozer ²	85	50	0.04	0.16			0.04
Medium Dozer ²	80	50	0.04	0.16			0.04
Small Dozer ²	80	50	0.04	0.16			0.04
Boom Cranes ²	83	50				0.08	

Source:

¹ Bolt, Beranek, and Newman, Inc. December 1971. Noise from Construction Equipment and Operations, Buildings Equipment and Home Appliances.

² No usage factors available. Usage factors from similar equipment were applied.

³ Blanks indicate no or very rare usage.

⁴ Bolt, Beranek, and Newman, Inc. December 1971. Noise from Construction Equipment and Operations, Buildings Equipment and Home Appliances with attenuation for exhaust mufflers applied.

⁵ Off Road Truck = Dump Truck

⁶ Utility Vehicle = Pickup Truck

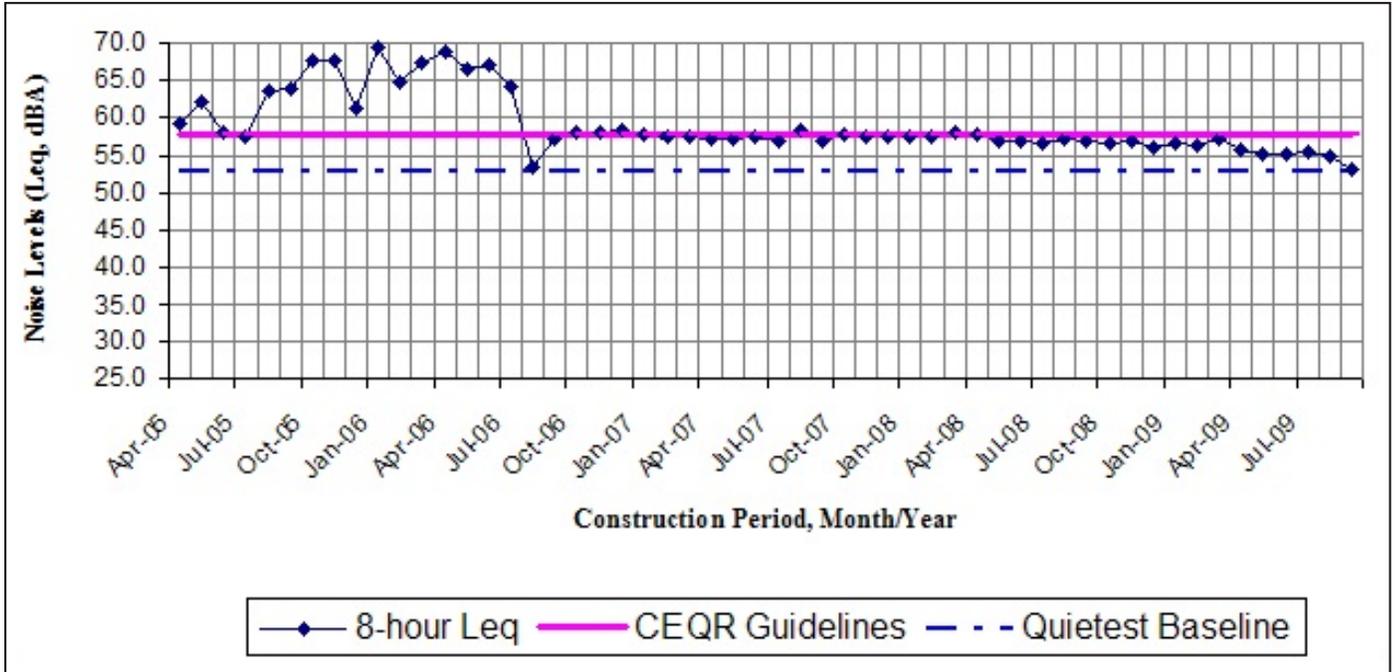
Figures 4.11-4 through 4.11-9 presents the monthly total noise levels (maximum construction noise level and future noise levels without Croton project) during construction activities (as calculated by the noise prediction algorithm) at each identified sensitive receptor for the full duration of the construction phase. Noise level reductions were factored into the noise prediction algorithm to account for equipment that would be in the excavation. The walls of the excavation would provide sound attenuation to equipment in the excavated area. As excavation and rock removal activities take place, the excavation would vary in depth.. Only equipment that would be in the excavation at all times (e.g., rock drills) had noise reductions applied to them. A noise reduction of 5 dBA was factored for the rock drills during excavation at any given time of construction activities.

Following the calculation of monthly stationary source noise levels during construction activities, an analysis was performed for the anticipated peak noise month during construction (2006), which was used to determine whether construction would result in noise increasing to levels that exceed the 3 to 5 dBA threshold for this worst-case scenario. The maximum projected noise level from the peak month at each receptor from construction activities was added to the future baseline value in order to predict the greatest noise level changes. Potential noise impacts were assessed only for weekdays during construction hours (7 AM to 4 PM). Table 4.11-23 presents total noise level data (maximum construction noise level and future noise levels without Croton project) for the peak stationary construction-noise year (2006).

County Laboratory (EV-S1).

Noise levels predicted to occur as a result of the proposed facility at the County Laboratory (Receptor EV-S1) would exceed the 3 to 5 dBA threshold used to define significance for a period from approximately April 2005 until July 2006. The largest incremental change at this receptor (located immediately to the north of the proposed Eastview Site) over the Future Without the Project level would be 16.6 dBA (see Table 4.11-23 and Figure 4.11-4). However, due to the short duration of these construction-related noise levels, less than two years, they would be considered temporary and not significant.

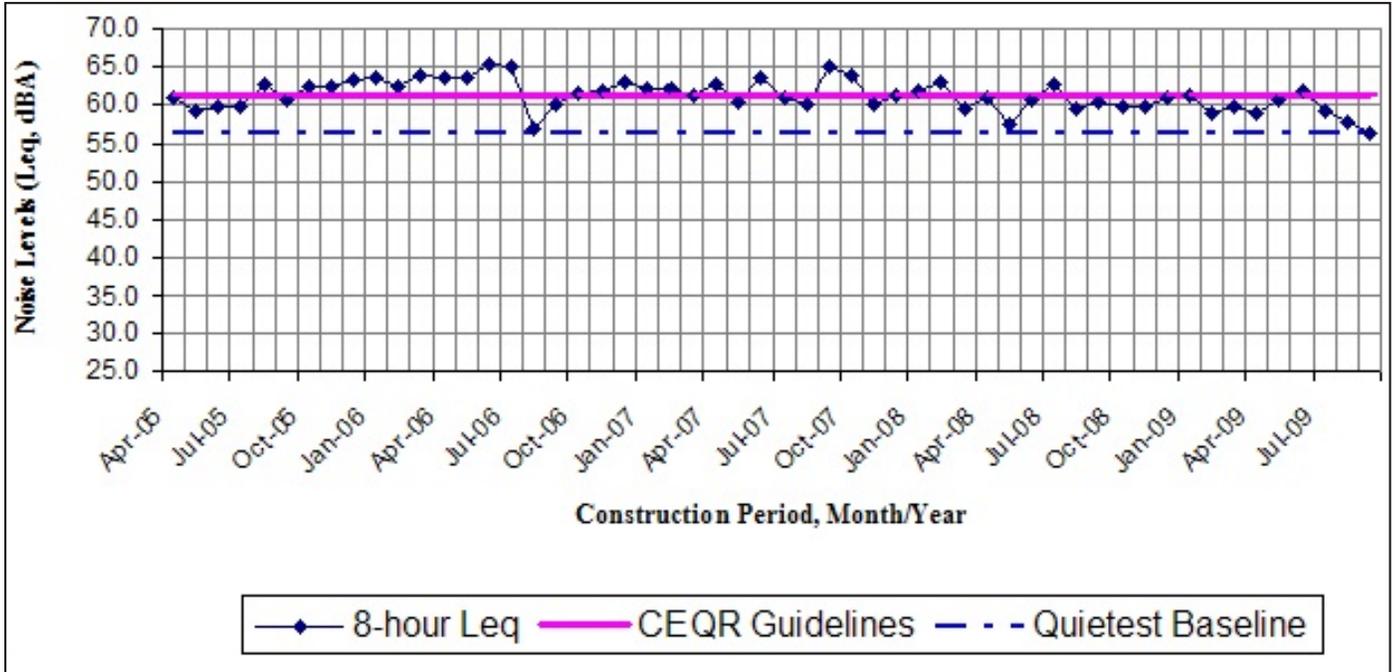
An analysis was performed to determine the total distance beyond the County Laboratory (and further to the north) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that these unacceptable noise level increases would extend and to what extent local noise-sensitive receptors would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the north end of the site to a maximum distance of approximately 1,255 feet to the north of the County Laboratory. This area to the north is the Grasslands Reservation, which includes the Westchester Medical Center (see Figure 4.11-10).



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S1

Catskill/Delaware UV Facility

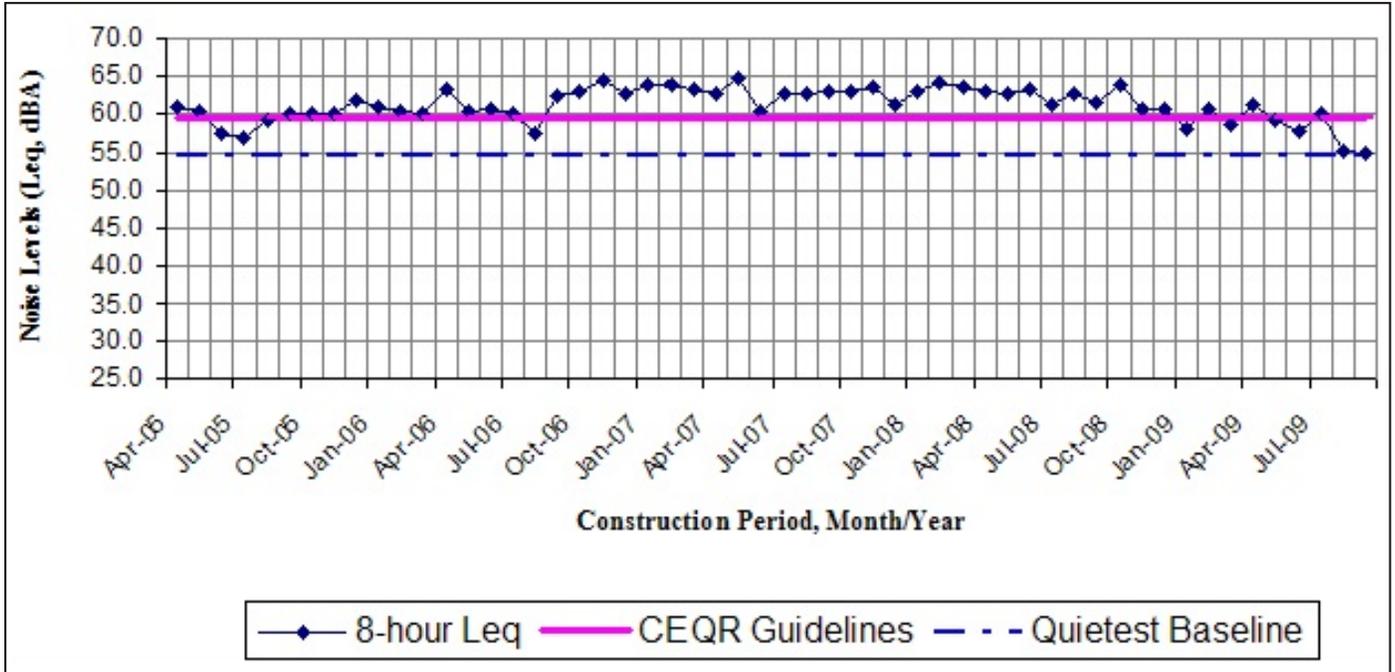
Figure 4.11-4



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S2

Catskill/Delaware UV Facility

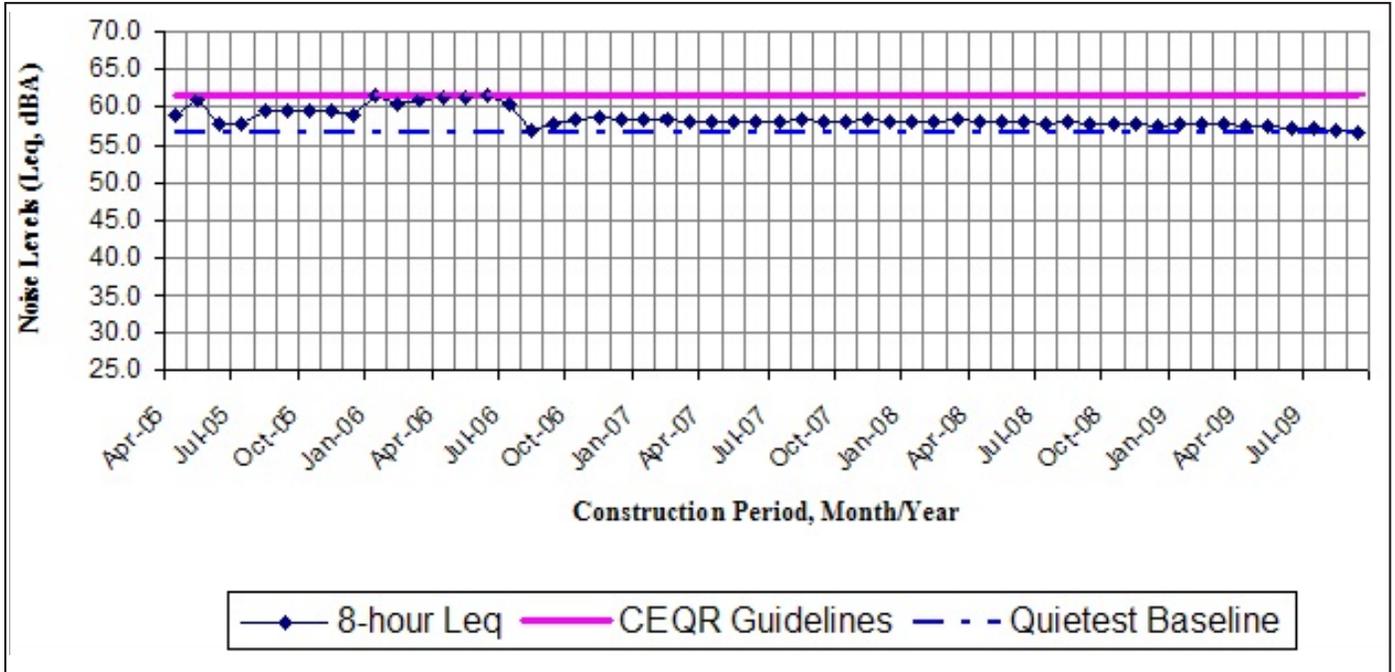
Figure 4.11-5



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S3

Catskill/Delaware UV Facility

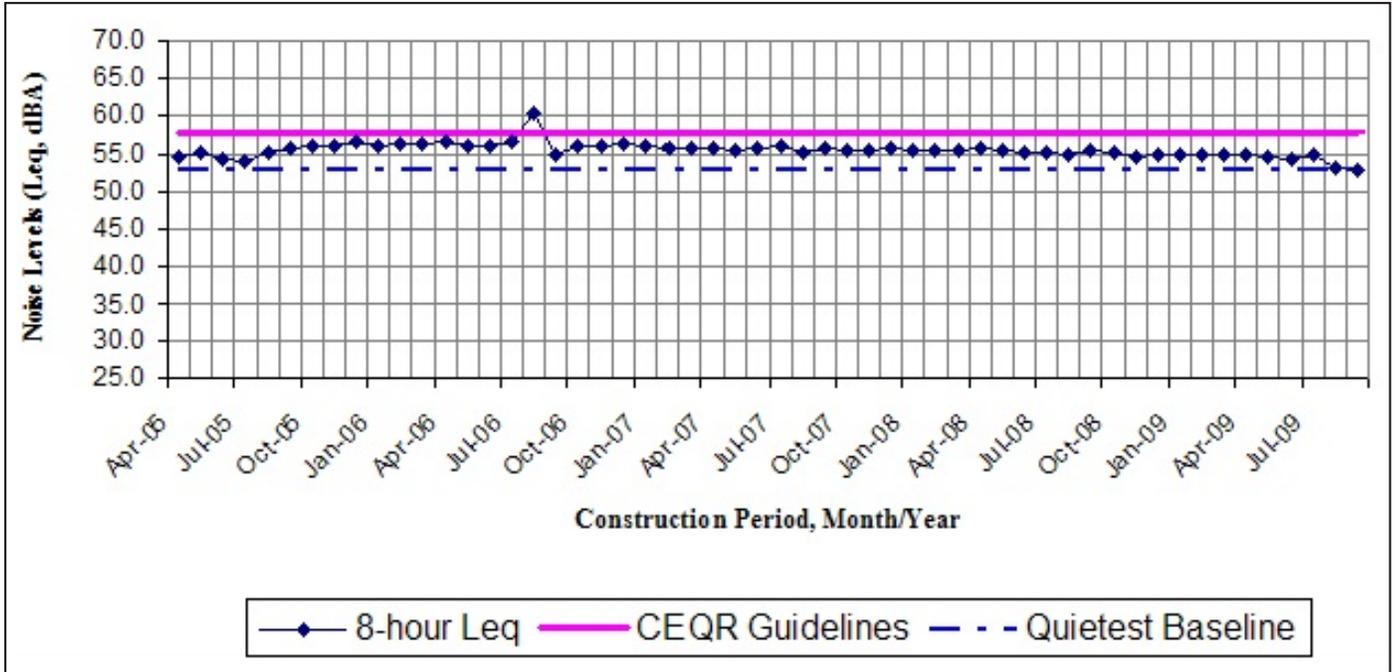
Figure 4.11-6



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S4

Catskill/Delaware UV Facility

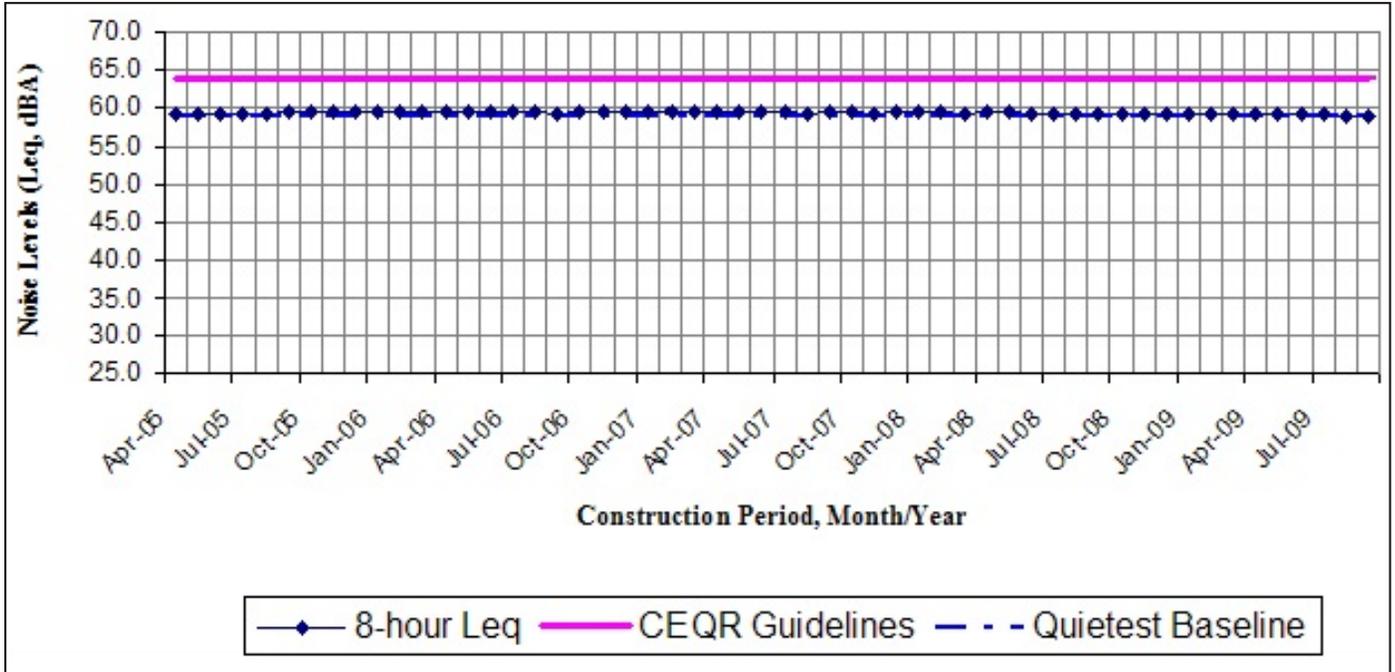
Figure 4.11-7



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S5

Catskill/Delaware UV Facility

Figure 4.11-8



UV Facility Total Noise Level by Month During Construction at Monitoring Location EV-S6

TABLE 4.11-23. UV FACILITY: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION (Leq, dBA)

Proximate Receptor	Monitoring Period	Future Without Project Noise Level (Leq)	Predicted Construction Noise Level	Total Noise Level During Construction ¹	Incremental Change	Impact Threshold	Exceed Threshold? (Y/N)
EV-S1	Quietest (2-3 pm)	52.8	69.3	69.4	16.6	5.0	Yes
	Noisiest (1-2 pm)	57.5	69.3	69.6	12.1	5.0	Yes
EV-S2	Quietest (2-3 pm)	56.3	64.9	65.5	9.2	5.0	Yes
	Noisiest (1-2 pm)	56.6	64.9	65.5	8.9	5.0	Yes
EV-S3	Quietest (2-3 pm)	54.6	63.9	64.4	9.8	5.0	Yes
	Noisiest (1-2 pm)	56.2	63.9	64.6	8.4	5.0	Yes
EV-S4	Quietest (2-3 pm)	56.7	60.0	61.7	5.0	5.0	Yes
	Noisiest (1-2 pm)	58.7	60.0	62.4	3.7	5.0	No
EV-S5	Quietest (11-12 pm)	52.8	59.4	60.3	7.5	5.0	Yes
	Noisiest (7-8 am)	58.2	59.4	61.9	3.7	5.0	No
EV-S6	Quietest (7-8 am)	59.0	51.0	59.6	0.6	5.0	No
	Noisiest (3-4 pm)	62.1	51.0	62.4	0.3	3.0	No

Notes: ¹Total Noise Level During Construction based on logarithmic addition of Future Without Project and Predicted Construction Noise Level.

Westchester County Penitentiary (EV-S2).

Noise levels predicted to occur as a result of the proposed facility at the Westchester County Penitentiary (Receptor EV-S2) would sporadically exceed the 3 to 5 dBA threshold used to define significance for less than 4 months in the years 2005, 2008, and 2009. Predicted noise levels starting in the year 2006 would during the years 2006 through and including 2007 would exceed the threshold limits for approximately 2 years straight, however, no significant adverse impacts are predicted as a result of the temporary nature of the construction activities. The largest incremental change at this receptor (located immediately to the north of the proposed Eastview Site) over the Future Without the Project level would be 9.2 dBA (see [Table 4.11-23](#) and [Figure 4.11-5](#)).

An analysis was performed to determine the total distance beyond the penitentiary (and further to the east) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that these noise levels would extend and to what extent local noise-

sensitive receptors would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the east end of the site to a maximum distance of approximately 480 feet to the east of the Penitentiary for a period from approximately August 2005 until July 2006, and sporadically exceed the threshold from approximately October 2006 until July 2008. This area to the east is still within the grounds of the Penitentiary. No significant adverse impacts are predicted as a result of the temporary nature of the construction activities (see [Figure 4.11-10](#)).

Hammond House (EV-S3).

Noise levels predicted to occur as a result of the proposed facility at Hammond House (Receptor EV-S3) would exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project level would be 9.8 dBA (see [Table 4.11-23](#) and [Figure 4.11-6](#)). Predicted noise levels would exceed the acceptable threshold during April 2006, and sporadically exceed the threshold from approximately October 2006 until October 2008. This temporary impact is not considered significant.

An analysis was performed to determine the total distance beyond Hammond House (and further to the south) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that the noise levels would extend and to what extent local noise-sensitive receptors would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the south of the site to a maximum distance of approximately 680 feet to the south of Hammond House. This area is owned by the City of New York and does not contain noise-sensitive receptors (see [Figure 4.11-10](#)).

Woodfield Cottage Juvenile Detention Center (EV-S4).

Noise levels predicted to occur as a result of the proposed facility at the Juvenile Detention Center (Receptor EV-S4) would exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project level would be 5.0 dBA (see [Table 4.11-23](#) and [Figure 4.11-7](#)). Predicted noise levels would exceed the acceptable threshold for two months (January 2006 and June 2006) during construction activity.

An analysis was performed to determine the total distance (beyond the detention center and further to the north) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that the increased noise levels would extend and to what extent local noise-sensitive receptors would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend to a maximum distance of approximately 10 feet to the north of the juvenile detention center. This area to the north is the Grasslands Reservation, which includes the Westchester Medical Center (see [Figure 4.11-10](#)). Predicted noise levels would exceed the acceptable threshold two months in the year 2006 (January 2006 and June 2006) as a result of construction-related noise. Due to the short duration of these construction-related noise levels, they would be considered temporary and not significant.

Eastern Edge of South Parcel, beside Taylor Road residences (EV-S5).

Noise levels predicted to occur as a result of the proposed facility along the eastern edge of the south parcel (Receptor EV-S5) would exceed the 3 to 5 dBA threshold used to define significance with the largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project level being 7.5 dBA (see [Table 4.11-23](#) and [Figure 4.11-8](#)). This area is owned by the City of New York and does not contain noise-sensitive receptors, although the City-owned property abuts residential properties. Predicted noise levels would exceed the acceptable threshold only for one month period (August 2006). Due to the short duration of these construction-related noise level increases, these increases in noise levels would be considered temporary and not significant.

An analysis was performed to determine the total distance beyond the eastern edge of the south parcel (and further to the south and eastwards towards the residences on Taylor Road) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that the noise levels would extend and to what extent local noise-sensitive receptor would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the eastern edge of the south parcel a maximum distance of approximately 250 feet to the south of the City of New York property, and approximately 250 feet towards the residential properties on Taylor Road that abuts the City-owned property. These exceedances would occur only for a one-month period (August 2006) as a result of construction-related noise. However, due to the short duration of these construction-related noise levels, they would be considered temporary and not significant.

Taylor Road (Residence No.29) (EV-S6).

Noise levels predicted to occur as a result of the proposed facility at the single-family residences along Taylor Road (Receptor EV-S6) would not exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project level would be less than 0.6 dBA (see [Table 4.11-23](#) and [Figure 4.11-9](#)). Predicted noise levels would not exceed the acceptable threshold for the duration of construction activity. Therefore, at the single-family residences along Taylor Road, and any potential noise-sensitive receptors beyond Taylor Road would not experience an increase in noise levels exceeding the 3 to 5 dBA threshold as a result of construction-related noise.

Noise levels due to construction activities would not violate the Town of Mount Pleasant daytime noise ordinance that governs construction activities. However, predicted noise levels would violate the Town of Mount Pleasant nighttime noise ordinance between 7:00 AM and 8:00 AM when the reduced residential zone noise limits applies. The incremental change for each analysis hour was applied to the total noise (L_{eq}) levels presented in [Table 4.11-21](#) in order to obtain the L_{10} values shown in [Table 4.11-24](#). These noise levels are not predicted to exceed the 70 dBA noise limit for residential zones or the 75 dBA noise limit for commercial zones during daytime hours established by the Town of Mount Pleasant. Also, during the first hour of construction between 7:00 AM and 8:00 AM, noise levels are not predicted to exceed the 80

TABLE 4.11-24. UV FACILITY: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT 400 FEET FROM EASTVIEW SITE WITHOUT MITIGATION COMPARED TO MOUNT PLEASANT CODE (L₁₀, dBA)

Construction Limit	Monitoring Period	Total Noise Level During Construction¹	Mount Pleasant Code (measured 400 ft. from construction site)²	Code Compliance
North	7-8 am ⁴	63.9	55.0	Exceeds
	Noisiest ⁵ (1-2 pm)	64.7	70.0	Meets
South ³ (Hammond House)	7-8 am	65.8	55.0	Exceeds
	Noisiest (1-2 pm)	63.3	70.0	Meets
East	7-8 am	64.1	55.0	Exceeds
	Noisiest (1-2 pm)	63.5	70.0	Meets
West	7-8 am	63.2	80.0	Meets
	Noisiest (1-2 pm)	62.1	75.0	Meets

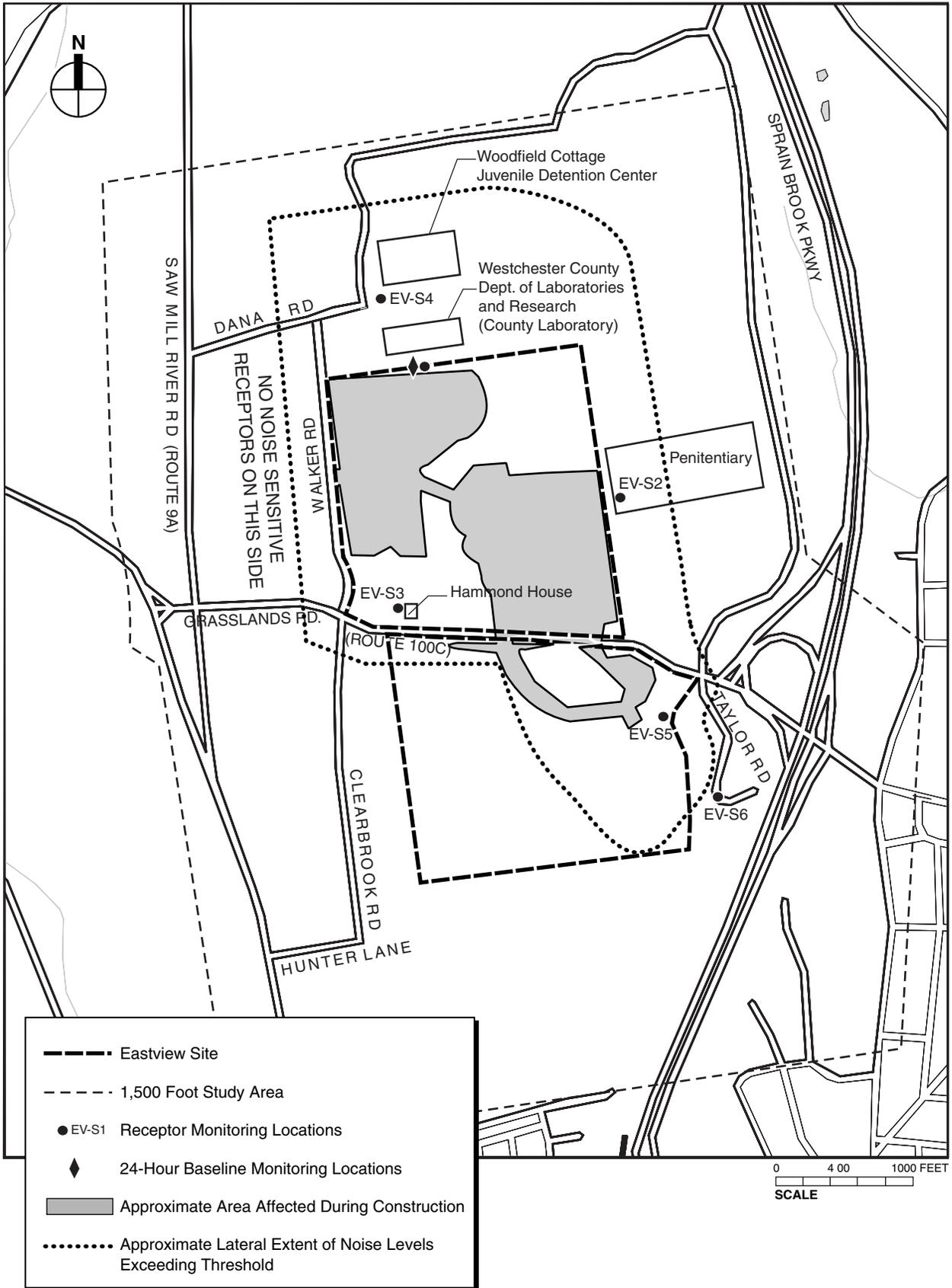
Notes: ¹Total Noise Level During Construction based on logarithmic addition of Future Without Project and Predicted L₁₀ Construction Noise Level.

²Maximum allowable L₁₀ noise levels based on land use.

³NYCDEP property extends greater than 400 feet to the south of the construction site. These values are at the closest public access, the Hammond House, located to the south of the site.

⁴Measured L_{eq} noise levels during 2-3 pm time period used for early morning time periods.

⁵Noisiest time periods based on measured L_{eq} noise levels.



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Lateral Extent of Noise Levels Exceeding the Threshold (Before Mitigation)

dBA nighttime noise limits for commercial zones, however, predicted noise levels have the potential to exceed the 55 dBA noise limit for residential zones towards the north, south (Hammond House) and east of the construction boundary limits. **Section 6, Mitigation of Potential Significant or Temporary Adverse Impacts**, presents possible mitigation measures that could be implemented should they be necessary. Any construction activities that would occur in the Town of Greenburgh would fall within the allowable hours for construction activities stated in the Town of Greenburgh noise ordinance.

Combined Mobile and Stationary Source Noise. The County Laboratory, Hammond House, and the Juvenile Detention Center (EV-S1, EV-S3, and EV-S4, respectively) each could be exposed to the combined effect of both mobile and stationary noise generated by construction activities at the proposed UV Facility. The greatest incremental change from mobile sources is predicted to occur in 2008 and the greatest incremental change from stationary sources is predicted to occur in 2006. Although these years are different, the two peak years were combined in order to predict the worst-case scenario (where the combined peak year is 2006). This is the most conservative approach and could over-estimate combined noise levels. Based on the PCE screen presented in [Table 4.11-1](#), the potential incremental change in mobile source noise levels due to construction activities for the route segments along which these sensitive receptors are located is less than 1.2 dBA. Receptors at this site already would have noise level increases in excess of the CEQR impact threshold used to determine significance due to contributions from stationary source noise. The contribution from mobile sources to the total noise would not appreciably change predicted noise levels.

Vibration from Construction. Due to the magnitude of this project, it is possible that excavation activities may cause vibrations. Vibrations could occur due to rock blasting activities. The foundation and the shafts of the proposed UV Facility would require rock drilling and some blasting, in the vicinity of the Delaware Shaft No. 19 on the north parcel. In addition, blasting may be required in the vicinity of the Catskill Aqueduct Connection Chamber (CCC) on the south parcel, where new connections to the aqueduct would be made. The County Laboratory (located to the north of the north parcel), the historic Hammond House (located on the north parcel beside Route 100C), and the residences on Taylor Road (located east of the south parcel) are all potentially sensitive to vibrations. The Hammond House is located approximately 1,200 feet away from Delaware Shaft No. 19 and the County Laboratory is located even farther away (approximately 2,000 feet). The closest Taylor Road residence is located approximately 225 feet away from the existing CCC. All of the Taylor Road residences are separated from the City-owned property by a ridge.

The main factors in rock blasting that affect vibration levels are charge weight and distance from blast area to sensitive receptor. Whereas distance cannot be altered, the charge weight may be controlled through the use of delays. Delays divide a charge into many smaller individual blasts, thereby reducing charge weight and, consequently, associated vibrations. Before blasting has commenced, facilities identified as sensitive receptors would be notified ahead of blasting activities. Monitoring would be conducted by a specialty contractor adjacent to the receptor during boring activities. All complaints received would be investigated thoroughly.

Both the Town of Mount Pleasant and Town of Greenburgh have blasting ordinances that would apply to the proposed facility.⁷ In Mount Pleasant, blasting is permitted after 8 AM and before 7 PM on weekdays and Saturdays, subject to conditions set by the Building Inspector. In Greenburgh, blasting is permitted between the hours of 8:30 AM and 3 PM and is prohibited on weekends and holidays. The Building Inspector requires a pre-blast survey and vibration standards would apply.

4.11.3.2.2. With Croton Project at Eastview Site

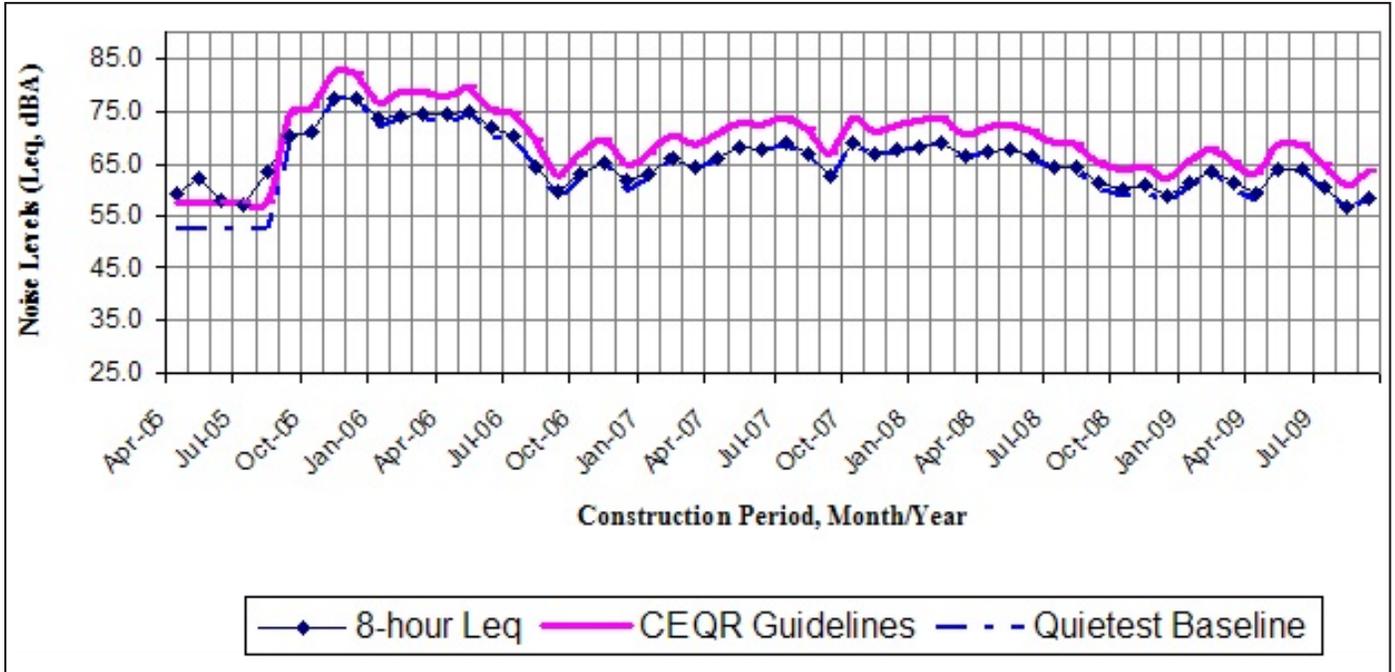
Mobile Source Noise (2008). Potential impacts from project-related mobile sources used during the construction phase of the proposed facility were determined for the analysis year (2008) at noise-sensitive route segments in the vicinity of the Eastview Site. As previously discussed, the future PCEs from the proposed facility were compared to PCEs in the Future Without the Project (with the Croton project) for the four construction worker parking Options (see [Section 4.11.1.1](#)). Based on the PCE screening analysis, it was determined that none of the identified noise-sensitive route segments in the vicinity of the Eastview Site would experience a 3 dBA or more incremental change in noise levels due to mobile source construction activities. Therefore, it was concluded that the contribution from mobile source noise to the total construction-related noise would not result in an exceedence of the 3 to 5 dBA threshold.

Stationary Source Noise (2006). Potential noise impacts resulting from the use of on-site equipment during construction activities were determined for the receptors proximate to the Eastview Site for the analysis year (2006) that represented the month with the highest construction-related stationary noise levels. The maximum projected monthly noise level from construction activities was added to the Future Without the Project (with the Croton project) in order to determine the noise impacts for the worst-case scenario.

The noise prediction algorithms, noise level reductions, and the monthly breakdown of anticipated equipment (see [Table 4.11-22](#)) for the project, previously discussed in [Section 4.11.3.2.1](#), were used in the analysis of potential construction-induced noise. [Figures 4.11-11 through 4.11-14](#) presents the monthly total noise levels (maximum construction noise level and future noise levels with the Croton project) at receptors 1 through 4 for the full duration of the construction phase. Note, construction-induced noise with the Croton project at Receptors EV-S5 and EV-S6 were unavailable since the Croton project would be confined to the north parcel of the Eastview Site, in Mount Pleasant. However, the construction-induced noise at these receptors (Receptors EV-S5 and EV-S6) would be primarily a function of construction-induced noise resulting from the UV Facility since the receptors are in close proximity to a construction activity zone (see [Figure 4.11-3](#)). Therefore, the maximum projected monthly noise levels from construction activities would approximate [Figures 4.11-8 and 4.11-9](#).

Following the calculation of monthly noise levels during construction activities, an analysis was performed for the anticipated peak noise month during construction (2006). The analysis determined whether construction would result in noise increasing to levels that exceed the 3 to 5

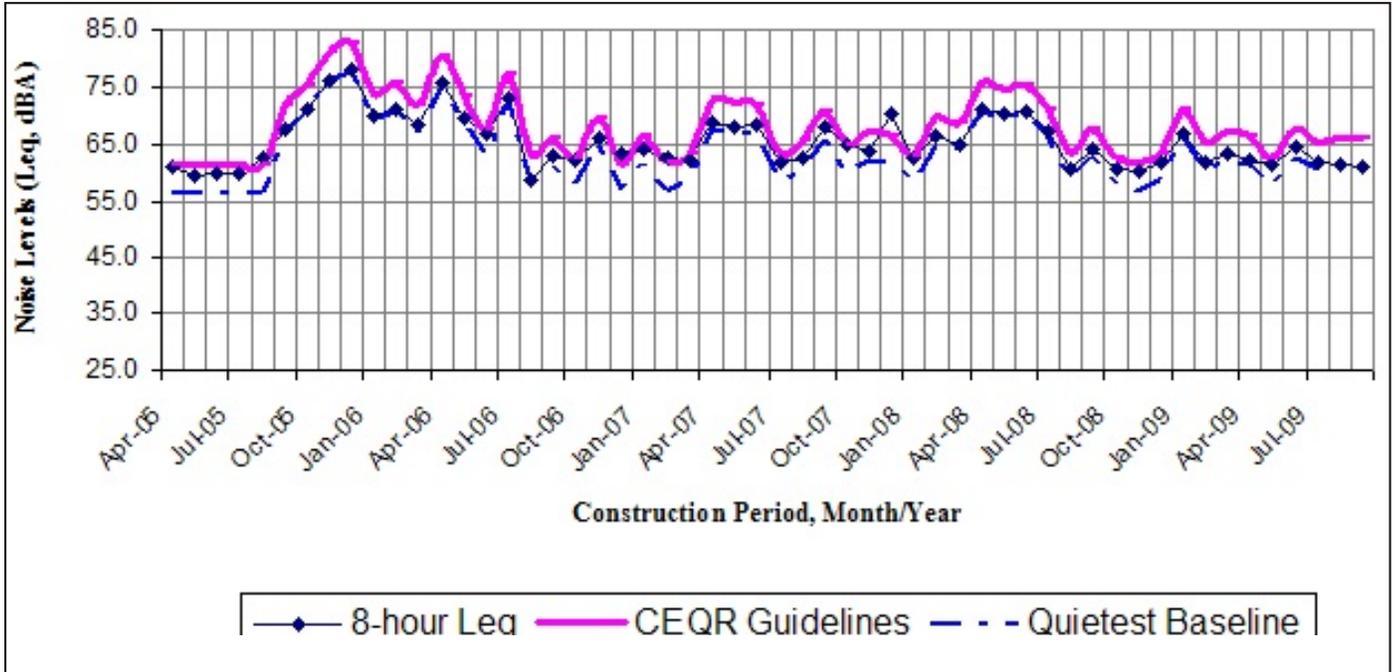
⁷ Code of the Town of Mount Pleasant, Part II, General Legislation, Chapter 104, Fire Prevention, Article IV, Explosives, Ammunition, and Blasting Agents; Code of the Town of Greenburgh, New York. Part I, Building Regulations, Chapter 140, Explosives and Blasting.



UV Facility with Croton Total Noise Level by Month During Construction at Monitoring Location EV-S1

Catskill/Delaware UV Facility

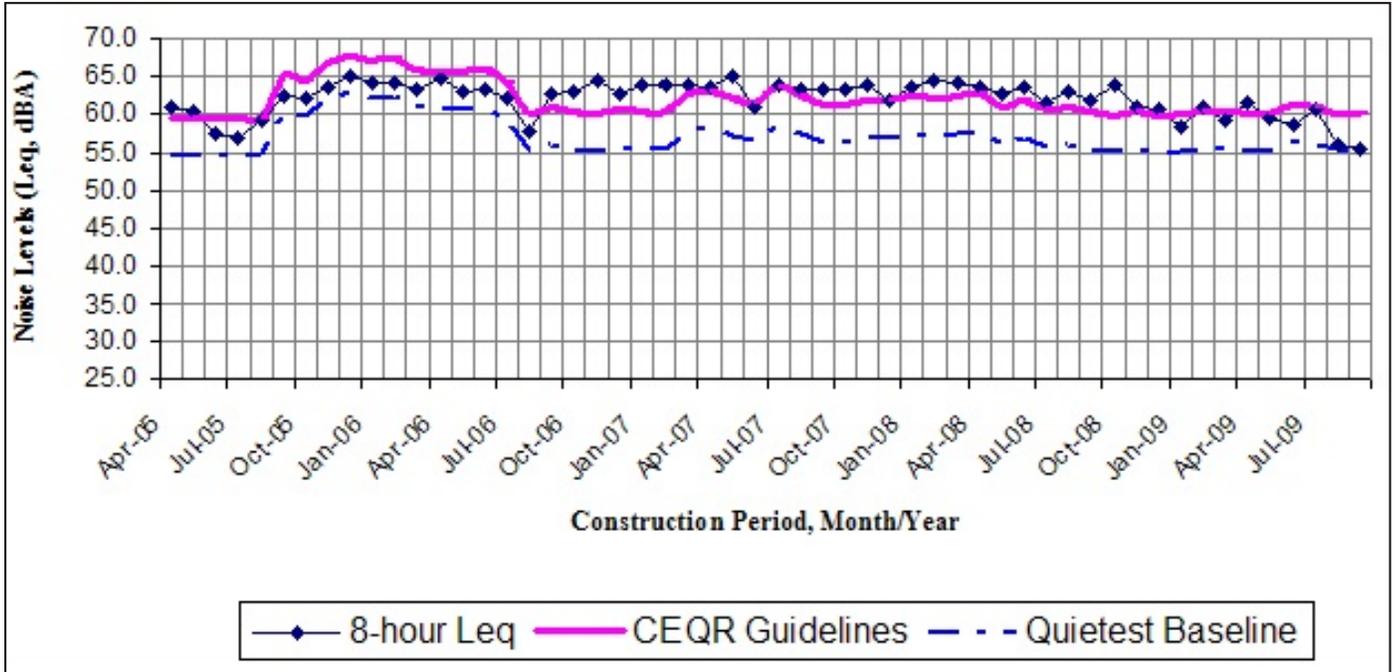
Figure 4.11-11



UV Facility with Croton Total Noise Level by Month During Construction at Monitoring Location EV-S2

Catskill/Delaware UV Facility

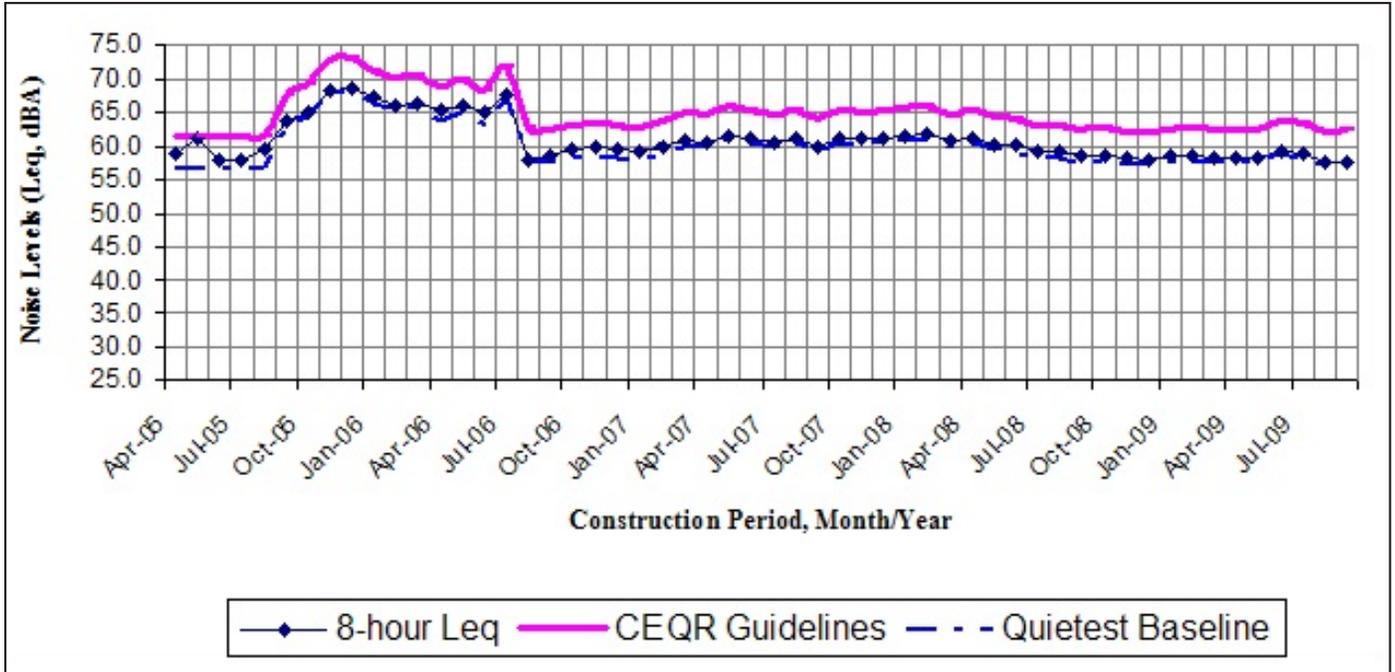
Figure 4.11-12



UV Facility with Croton Total Noise Level by Month During Construction at Monitoring Location EV-S3

Catskill/Delaware UV Facility

Figure 4.11-13



UV Facility with Croton Total Noise Level by Month During Construction at Monitoring Location EV-S4

Catskill/Delaware UV Facility

Figure 4.11-14

dBA threshold for this worst-case scenario. The maximum projected noise level from the peak month at each receptor from construction activities was added to the Future without the Project (with the Croton project) in order to predict the greatest noise level changes. The greatest incremental change from stationary sources is predicted to occur in 2005 for the Croton project, and the greatest incremental change from stationary sources is predicted to occur in 2006 for the proposed UV Facility. Although these years are different, the two peak years were combined in order to predict the worst-case scenario. This is the most conservative approach and could overestimate the combined noise levels. Potential noise impacts were assessed only for weekdays during construction hours (7 AM to 4 PM). [Table 4.11-25](#) presents total noise level data (maximum construction noise level and future noise levels with Croton project) for the peak stationary construction-noise year (2006).

County Laboratory (EV-S1).

Noise levels predicted to occur as a result of the proposed UV Facility at the County Laboratory (Receptor EV-S1) would not exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located immediately to the north of the proposed Eastview Site) over the Future Without the Project (with the Croton project) level would be 0.6 dBA (see [Table 4.11-25](#) and [Figure 4.11-11](#)). Predicted noise levels would not exceed the acceptable threshold for the duration of construction activity. However, while the predicted increment would not meet the threshold for impact significance, overall noise levels would be higher with both projects being constructed simultaneously at the Eastview Site.

Westchester County Penitentiary (EV-S2).

Noise levels predicted to occur as a result of the proposed UV Facility at the Westchester County Penitentiary (Receptor EV-S2) would not exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located immediately to the north of the proposed Eastview Site) over the Future Without the Project (with the Croton project) level would be less than 0.2 dBA (see [Table 4.11-25](#) and [Figure 4.11-12](#)).

Hammond House (EV-S3).

Noise levels predicted to occur as a result of the proposed UV Facility at Hammond House (Receptor EV-S3) would exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project (with the Croton project) level would be 3.5 dBA (see [Table 4.11-25](#) and [Figure 4.11-13](#)). At the Hammond House (Receptor EV-S3) and at distances beyond the Hammond House, farther to the south, predicted noise levels would sporadically exceed the acceptable threshold for the duration of construction activity from approximately September 2006 through April 2009. This temporary impact is not considered significant.

An analysis was performed to determine the total distance beyond Hammond House (and further to the south) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was

TABLE 4.11-25. UV FACILITY WITH CROTON PROJECT: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION (Leq, dBA)

Proximate Receptor	Monitoring Period	Predicted Construction Noise Level (Croton Project) (2005) ¹	Future Without Project Noise Level With Croton Project ² (Leq)	Predicted Construction Noise Level	Total Noise Level During Construction ³ (2006)	Incremental Change	Impact Threshold	Exceed Threshold? (Y/N)
EV-S1	Quietest (2-3 pm)	77.4	77.5	69.3	78.1	0.6	3.0	No
	Noisiest (1-2 pm)	77.4	77.5	69.3	78.1	0.6	3.0	No
EV-S2	Quietest (2-3 pm)	76.8	77.8	64.9	78.0	0.2	3.0	No
	Noisiest (1-2 pm)	76.8	77.8	64.9	78.0	0.2	3.0	No
EV-S3	Quietest (2-3 pm)	61.6	62.9	63.9	66.4	3.5	3.0	Yes
	Noisiest (1-2 pm)	61.6	63.2	63.9	66.6	3.4	3.0	Yes
EV-S4	Quietest (2-3 pm)	67.5	68.2	60.0	68.8	0.6	3.0	No
	Noisiest (1-2 pm)	67.5	68.4	60.0	69.0	0.6	3.0	No
EV-S5	Quietest (11-12 pm)	NA ⁴	52.8	59.4	60.3	7.5	5.0	Yes
	Noisiest (7-8 am)	NA	58.2	59.4	61.9	3.7	5.0	No
EV-S6	Quietest (7-8 am)	NA	59.0	51.0	59.6	0.6	5.0	No
	Noisiest (3-4 pm)	NA	62.1	51.0	62.4	0.3	3.0	No

Notes: ¹ Based on noise levels documented in Croton EIS.

² Future Without Project Noise Level with Croton Project based on logarithmic addition of existing baseline noise levels and Croton peak construction noise levels.

³ Total Noise Level During Construction based on logarithmic addition of Future Without Project (with Croton Project) and Predicted Construction Noise Level.

⁴ Predicted construction Noise Levels at receptors EV-S5 and EV-S6 controlled by UV Facility (construction noise levels due to Croton project are negligible).

performed to determine the distance that the noise levels would extend and to what extent local noise-sensitive receptors would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the south of the site to a maximum distance of approximately 680 feet to the south of Hammond House. This area is owned by the City of New York and does not contain noise-sensitive receptors (see [Figure 4.11-10](#)).

Woodfield Cottage Juvenile Detention Center (EV-S4).

Noise levels predicted to occur as a result of the proposed UV Facility at the Juvenile Detention Center (Receptor EV-S4) would not exceed the 3 to 5 dBA threshold used to define significance. The largest incremental change at this receptor (located to the south of the proposed

Eastview Site) over the Future Without the Project level would be 0.6 dBA (see [Table 4.11-25](#) and [Figure 4.11-14](#)).

Eastern Edge of South Parcel, beside Taylor Road residences (EV-S5).

Noise levels predicted to occur as a result of the proposed facility along the eastern edge of the south parcel (Receptor EV-S5) would exceed the 3 to 5 dBA threshold used to define significance with the largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project (with the Croton project) level would be 7.5 dBA. Construction noise levels due to the Croton project are negligible, and therefore predicted noise levels would be primarily controlled by construction related to the UV Facility (see [Table 4.11-25](#) and [Figure 4.11-13](#)). This area is owned by the City of New York and does not contain noise-sensitive receptors, although the City-owned property abuts residential properties. Predicted noise levels would exceed the acceptable threshold only for one month period (August 2006). This temporary impact is not considered significant.

An analysis was performed to determine the total distance beyond the eastern edge of the south parcel (and further to the south and eastwards towards the residences on Taylor Road) that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that the noise levels would extend and to what extent local noise-sensitive receptor would be affected. Noise levels that exceed the 3 to 5 dBA threshold would extend from the eastern edge of the south parcel a maximum distance of approximately 250 feet to the south of the City of New York property, and approximately 250 feet towards the residential properties on Taylor Road that abuts the City-owned property. These exceedances would occur only for a one-month period (August 2006) as a result of construction-related noise. This temporary impact is not considered significant.

Taylor Road (Residence No.29) (EV-S6).

Noise levels predicted to occur as a result of the proposed facility at the single-family residences along Taylor Road (Receptor EV-S6) would not exceed the 3 to 5 dBA threshold used to define significance. Construction noise levels due to the Croton project are negligible, and therefore predicted noise levels would be primarily controlled by construction of the UV Facility (see [Table 4.11-25](#) and [Figure 4.11-13](#)). The largest incremental change at this receptor (located to the south of the proposed Eastview Site) over the Future Without the Project (with the Croton project) would be less than 0.6 dBA. Predicted noise level would not exceed the acceptable threshold for the duration of construction activity. Therefore, at the single-family residence along Taylor Road, and any potential noise-sensitive receptors beyond Taylor Road would not experience an increase in noise levels exceeding the 3 to 5 threshold as a result of construction-related noise.

Noise levels due to construction activities with the proposed UV Facility and with the Croton project were determined using the incremental change for each analysis hour and applying the change to the total noise (Leq) levels presented in [Table 4.11-25](#) in order to obtain the L_{10} values shown in [Table 4.11-26](#). The construction activity that would occur in the Town of Greenburgh would fall within the allowable timeframe for construction activity stated in the Town of Greenburgh noise ordinance.

Noise levels due to construction activities would not violate the Town of Mount Pleasant noise ordinance that governs construction activities toward the west construction boundary limits. Noise levels at the north construction boundary has the potential to exceed the 70 dBA daytime and 55 dBA nighttime noise limit for residential zones established by the Town of Mount Pleasant. Noise levels would not violate the daytime noise limit for residential zones established by the Town of Mount Pleasant at the south and east construction boundary limits. However, noise levels at the south, north, and east construction boundary limits have the potential to exceed the 55 dBA noise limit for residential zones during the first hour of construction between 7:00 AM and 8:00 AM. **Section 6, Mitigation of Potential Significant or Temporary Adverse Impacts**, presents possible mitigation measures that could be implemented should they be necessary.

Combined Mobile and Stationary Source Noise. The County Laboratory, Hammond House, and the Juvenile Detention Center (EV-S1, EV-S3, and EV-S4, respectively) each could be exposed to the combined effect of both mobile and stationary noise generated by construction activities with the project with Croton. The greatest incremental change from mobile sources is predicted to occur in 2008 and the greatest incremental change from stationary sources is predicted to occur in 2006 for the proposed UV Facility. Also, the predicted noise level for the Future with the Project (with the Croton project) included the peak year analysis for Croton project's combined mobile and stationary source noise. Although these years are different, the peak years were combined in order to predict the worst-case scenario. This is the most conservative approach and could over-estimate combined noise levels. Based on the PCE screens for the four construction worker parking Options presented in [Tables 4.11-3](#) through [4.11-6](#), the potential incremental change in mobile source noise levels due to construction activities for the route segments along which these sensitive receptors are located is less than 2.0 dBA. The contribution from mobile sources to the total noise would not appreciably change predicted noise levels.

Vibration from Construction. As noted above, construction of the proposed UV Facility may cause vibrations during excavation activities, primarily as a result of rock blasting. The foundation and the shafts of the proposed UV Facility would require rock drilling and some blasting, in the vicinity of the Delaware Shaft No. 19 on the north parcel. In addition, blasting may be required in the vicinity of the CCC on the south parcel, where new connections to the aqueduct would be made. Meanwhile, in the northwest corner of the project site, vibrations could occur due to rock blasting activities and tunnel boring operations from the Croton project. The potential vibrations from the Croton project would not interfere with construction of the proposed UV Facility and would not exacerbate the potential vibrations from the proposed UV Facility. Due to their different locations, the projects would potentially affect different receptors. For example, the Croton project could be more likely to affect the County Laboratory, whereas the UV Facility could be more likely to affect the Hammond House and the Taylor Road residences.

TABLE 4.11-26. UV FACILITY WITH CROTON PROJECT: MAXIMUM NOISE LEVELS FROM CONSTRUCTION ACTIVITIES (2006) AT 400 FEET FROM EASTVIEW SITE WITHOUT MITIGATION COMPARED TO MOUNT PLEASANT CODE (L₁₀, DBA)

Construction Limit	Monitoring Period	Total Noise Level During Construction	Mount Pleasant Code (measured 400 ft. from construction site) ²	Code Compliance
North	7-8 am ³	73.2	55.0	Exceeds
	Noisiest ⁴ (1-2 pm)	73.5	70.0	Exceeds
South	7-8 am	68.2	55.0	Exceeds
	Noisiest (1-2 pm)	65.6	70.0	Meets
East	7-8 am	68.7	55.0	Exceeds
	Noisiest (1-2 pm)	68.0	70.0	Meets
West	7-8 am	71.4	80.0	Meets
	Noisiest (1-2 pm)	69.6	75.0	Meets

Notes: ¹ Predicted construction noise levels for Croton project peak construction year (2005) used.

² Maximum allowable noise levels based on land use.

³ NYCDEP property extends greater than 400 feet to the south of the construction site. These values are at the closest public access, the Hammond House, located to the south of the site.

⁴ Measured L_{eq} noise levels during 2-3 pm time period used for early morning time periods.

⁴ Noisiest time periods based on measured L_{eq} noise levels.

Nonetheless, the same precautions would be taken for the proposed UV Facility if the Croton project is constructed on the site at the same time. As noted above, the main factors in rock blasting that affect vibration levels are charge weight and distance from blast area to sensitive receptor. Whereas distance cannot be altered, the charge weight may be controlled through the use of delays. Delays divide a charge into many smaller individual blasts, thereby reducing charge weight and, consequently, associated vibrations. Before blasting has commenced, facilities identified as sensitive receptors would be notified ahead of blasting activities. Monitoring would be conducted by a specialty contractor adjacent to the receptor during boring activities. All complaints received would be investigated thoroughly. In addition, the blasting ordinances of both towns would be followed.

4.11.4. Potential Impacts of Relocating the Hammond House

NYCDEP may choose in the future to relocate the Hammond House from the Eastview Site to another location as part of the proposed UV Facility project due to security concerns associated with a private residence being located on the same site as critical components of the City's water system. As shown in [Figure 7-8](#), Eastview Site Full Buildout, which illustrates the NYCDEP's comprehensive long-term plan for the site, the Hammond House would be an isolated residential use surrounded by NYCDEP's water supply facilities. The following section examines the potential impacts of relocating the Hammond House from the Eastview Site.

If NYCDEP determines that the Hammond House needs to be relocated off-site and the house is relocated before the peak construction year, the temporary adverse impacts identified above would not occur. (As noted above, the Hammond House is the only receptor location where potential significant adverse impacts could occur.) Therefore, under that scenario, the proposed project would have no significant adverse noise impacts.