Appendix F – Air Quality

APPENDIX F: HVAC E-DESIGNATIONS

INTRODUCTION

Under the proposed zoning, (E) Designations are proposed to avoid impacts on privately owned parcels on projected or potential development sites with respect to air quality (heating and hot water systems and potential industrial uses). A description of the requirements of those (E) Designations follows. A list of the sites, blocks, and lots affected by the (E) Designations is presented in Tables F-1 through F-2. No (E) Designations are required for industrial sites.

PROPOSED E-DESIGNATIONS

Heating and Hot Water E-designations

The screening analysis was performed to evaluate whether potential air quality impacts from the heat and hot water systems associated with the projected and potential development sites could potentially impact other projected and potential development sites, or existing or other proposed buildings. Additional sites were screened out by applying a setback to the screening distance (these sites subsequently require an E-Designation).

A total of 23 projected and 3 potential development sites failed the refined screening analysis using Figure 17-2 from the CEQR Technical Manual. Each of these development sites required a refined modeling analysis, using AERMOD, for the use of natural gas.

Overall, to preclude the potential for significant adverse air quality impacts on other projected and potential development sites, or existing buildings, from the heat and hot water emissions, an (E) Designation (E-830) would be assigned as part of the Proposed Actions for 51 projected and potential development sites (including 47 projected and 4 potential development sites). These designations specify the various restrictions, such as the use of low NO_x burners or the distance that the vent stack on the building roof must be from its lot line(s).

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites

Site	Block	Lots	(E) Designation
1	761	31,32	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to southeast corner of the lot or to the area between 35 feet from the north lot line and 93 ft from the west lot line.
3	788	34,46,47	Any new residential and/or commercial development must ensure that stack is set back 68 feet south of the north lot line.
4	779	8	Any new residential and/or commercial development must ensure that stack is set back 30 feet west of the east lot line.
5	779	69	Any new residential and/or commercial development must ensure that stack is set back 95 feet north of the south lot line.
6	779	25,26	Any new residential and/or commercial development must ensure that stack is set back 85 feet south of the north lot line and 5 feet north of the south lot line.
7	779	53,55,56	Any new residential and/or commercial development must ensure that stack is set back 20 feet north of the south lot line.
8	779	43,44,45	Any new residential and/or commercial development must use 15 ppm Low NOx burner and ensure stack height is at least 230 feet. Restrict stack location to at least 56 feet from the south lot line and at least 59 feet from the west lot line.
11	786	66	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 19 feet from the west lot line.
12	786	29,31	Any new residential and/or commercial development must ensure that stack is at the southeast corner of the lot.
15	788	43,44,45,46	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 67 feet from the north lot line.
16	789	5	Any new residential and/or commercial development must ensure that stack is at the southeast corner of the lot.
18	789	40,42,43	Any new residential and/or commercial development must ensure use of electric heat.
19	799	24	Any new residential and/or commercial development must ensure that stack is set back 55 feet south of the north lot line.
20	800	14,15	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 17 feet from the east lot line.
21	800	19	Any new residential and/or commercial development must ensure that stack is set back 25 feet north of the south lot line.
22	801	28,29	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 54 feet from the south lot line and at least 23 feet from the east lot line.

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites

Site	Block	Lots	(E) Designation
26	802	29	Any new residential and/or commercial development must ensure that stack is set back 75 feet south of the north lot line and 5 feet north of the south lot line.
27	803	11	Any new residential and/or commercial development must ensure that stack is set back 55 feet south of the north lot line.
28	803	46,47	Any new residential and/or commercial development must ensure that stack is set back 10 feet south of the north lot line.
29	804	68,69	Any new residential and/or commercial development must ensure that stack is set back 10 feet south of the north lot line.
30	804	63	Any new residential and/or commercial development must ensure that stack is set back 10 feet south of the north lot line.
31	805	1,2,5	Any new residential and/or commercial development must ensure use of electric heat.
32	805	87	Any new residential and/or commercial development must ensure that stack is set back 40 feet east of the west lot line.
33	805	75	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 23 feet from the east lot line and at least 101 feet from the north lot line.
34	806	63	Any new residential and/or commercial development must ensure that stack is set back 22 feet south of the north lot line.
35	806	54,56	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 59 feet from the north lot line and at least 13 feet from the west lot line.
37	825	7,8	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 74 feet from the north lot line and at least 33 feet from the west lot line.
38	826	61	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 24 feet from the east lot line and at least 60 feet from the south lot line.
41	829	65,66,67	Any new residential and/or commercial development must use 30 ppm Low NOx burner, have a stack height of 340 feet, and restrict stack location to at least 55 feet from the east lot line.
42	829	62,63,64	Any new residential and/or commercial development must ensure use of electric heat.
43	829	59,61	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 38 feet from the west lot line.
44	829	55,56	Any new residential and/or commercial development must ensure that stack is set back 60 feet east of the west lot line.

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites

Site	Block	Lots	(E) Designation
45	830	69	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 17 feet from the north lot line.
46	830	32,34,48,51	Any new residential and/or commercial development must ensure that stack is set back 160 feet south of the north lot line.
47	831	7,9,10	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 91 feet from the east lot line and to at least 80 feet from the north lot line.
48	831	19	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 88 feet from the west lot line and at least 18 feet from the north lot line.
49	831	30,33,48,49,50,51,52	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 48 feet from the south lot line and at least 254 feet from the east lot line.
50	832	36,37	Any new residential and/or commercial development must ensure that stack is set back 20 feet north of the south lot line.
51	837	26,27,28,29	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 68 feet from the east lot line.
52	837	30	Any new residential and/or commercial development must ensure that stack is at the southwest corner of the lot.
53	838	65,66,68,69	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to at least 63 feet from the east lot line.
54	838	60,61	Any new residential and/or commercial development must ensure that stack is set back 10 feet east of the west lot line.
55	839	78,79	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 65 feet from the west lot line.
56	839	14,15	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to the area between 17 feet from the west lot line and 59 feet from the north lot line.
60	840	21	Any new residential and/or commercial development must ensure that stack is set back 20 feet south of the north lot line.
61	840	60	Any new residential and/or commercial development must ensure that the stack height is restricted.
62	841	12,13,14	Any new residential and/or commercial development must ensure that the stack is set back 100 feet north of the south lot line.

Table F-2
Heating and Hot Water System Analysis – E-Designations for Potential Development Sites

Site	Block	Lots	(E) Designation
A	779	12	Any new residential and/or commercial development must ensure that stack is set back 10 feet east of the west lot line.
C	786	68	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 87 feet from the south lot line and at least 106 ft from the east lot line.
F	838	34,35	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict stack location to the area between 21 feet from the west lot line and 66 feet from the north lot line.
G	1012	25,26	Any new residential and/or commercial development must use 15 ppm Low NOx burner and restrict stack location to at least 61 feet from the east lot line.