

APPENDIX F
AIR QUALITY

A. INTRODUCTION

Under the proposed zoning, (E) designations are proposed to avoid impacts on projected or potential development sites with respect to air quality (heating systems). 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 and F-2.

Under the proposed actions, for each of the 132 projected and potential development sites (57 projected and 75 potential development sites) development sites that failed the HVAC screening analysis, a refined analysis was performed utilizing the AERMOD dispersion model (see Chapter 14, "Air Quality"). The results indicated that 111 of the 132 sites that failed the screening analysis for No. 2 oil also failed the refined analysis, and 50 of 112 sites that failed the screening analysis for natural gas also failed the refined analysis.

To preclude the potential for significant adverse air quality impacts on other projected and potential developments from the HVAC emissions, an (E) designation would be incorporated into the proposed rezoning for each of the affected sites. The descriptions and requirements of the proposed (E) designations for these sites with respect to HVAC systems are presented in Tables F-1 and F-2.

CITY-OWNED PARCEL

For the City owned parcel located within Projected Development Site 66 (Block 4142, Lot 32), the implementation of the restrictions would be required through the Land Disposition Agreement between HPD and future developer with oversight provided through HPD and the NYCDEP. This agreement would require that any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 160 feet above grade, to avoid any potential significant air quality impacts.

**Table F-1
(E) Designations for Projected Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
1	1437	46, 58	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
2	1544	21, 42	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
3	3660	1, 2, 29	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
4	3661	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
6	3669	13, 17, 20	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
7	3669	22, 26	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
8	3670	9, 31, 33	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 105 feet above grade and located at least 20 feet away from the lot line facing Atlantic Avenue, to avoid any potential significant air quality impacts.
9	3670	13, 14, 15, 29, 30	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 100 feet above grade, to avoid any potential significant air quality impacts.
10	3670	16, 17, 18	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 100 feet above grade, to avoid any potential significant air quality impacts.
13	3687	12	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 35 feet away from the lot line facing Atlantic Avenue and at least 30 feet away from the lot line facing Pennsylvania Avenue, to avoid any potential significant air quality impacts.
14	3688	11, 18	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
15	3688	33	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
16	3691	11, 13	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
17	3691	24	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.

**Table F-1
(E) Designations for Projected Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
18	3703	1, 4, 37, 38, 39, 40	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
24	3947	1, 5, 9	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
26	3954	45, 55	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
27	3955	45, 46, 47, 48, 49, 52, 53	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
31	3961	1, 3, 5, 7	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 20 feet away from the lot line facing Atlantic Avenue and at least 20 feet from the lot line facing Miller Avenue, to avoid any potential significant air quality impacts.
32	3961	15, 16, 113	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
33	3961	31, 32, 33	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.
34	3962	30, 31, 32	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 10 feet away from the lot line facing Van Sclen Avenue, to avoid any potential significant air quality impacts.
35	3963	14, 15, 16	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
36	3964	2, 3	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.
37	3964	4, 8, 23	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade and located no more than 41 feet away from the lot line facing Liberty Avenue, to avoid any potential significant air quality impacts.
38	3964	24, 25, 26, 27	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.

**Table F-1
(E) Designations for Projected Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
39	3966	12, 13, 14, 15, 16	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
<u>40</u>	<u>1554</u>	<u>16</u>	<u>Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 130 feet above grade, to avoid any potential significant air quality impacts.</u>
41	3971	17, 19, 21	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet away from the lot line facing Essex Street, to avoid any potential significant air quality impacts.
43	3973	22, 24	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
44	3973	50, 52	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet above grade, to avoid any potential significant air quality impacts.
45	3973	53, 55	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet above grade, to avoid any potential significant air quality impacts.
46	3974/3975	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 155 feet above grade and located at least 35 feet away from the lot line facing Berriman Street, and at least 45 feet away from lot line facing Atkins Avenue, and at least 50 feet away from lot line facing Montauk Avenue, to avoid any potential significant air quality impacts.
47	3977	17, 18, 19, 20, 21	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
54	3989	9, 10, 12, 14, 16	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
55	3991	8	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
58	3996	34, 35, 36, 37, 39	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
61	4005	16, 17	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.

**Table F-1
(E) Designations for Projected Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
64	4017	15, 19	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 50 feet away from the lot line facing Elton Street, to avoid any potential significant air quality impacts.
65	4139	25, 29	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
<u>66¹</u>	<u>4142</u>	<u>1</u>	<u>Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 160 feet above grade.</u>
67	4143	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 125 feet away from the lot line facing Chestnut Street, to avoid any potential significant air quality impacts.
69	4153	34, 40	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
72	4154	28, 35, 45	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 10 feet away from the lot line facing Logan Street, to avoid any potential significant air quality impacts.
73	4154	99, 100	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 10 feet away from the lot line facing Fountain Avenue, to avoid any potential significant air quality impacts.
75	4195	6	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
76	4195	21, 30	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
80	3989	1, 34, 36	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
81	4210	1, 35, 34, 43	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.

¹ For the City owned parcel located within Projected Development Site 66 (Block 4142, Lot 32), the implementation of the restrictions would be required through the Land Disposition Agreement between HPD and future developer with oversight provided through HPD and NYCDEP. This agreement would require that any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 160 feet above grade, to avoid any potential significant air quality impacts.

**Table F-2
(E) Designations for Potential Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
A1	1437	21, 23	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A2	1450	1, 2, 3, 50, 51, 53	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A3	1437	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A7	1553	13, 18	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A8	1554	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A9	1574	23, 32	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A11	3672	43, 46	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A19	3973	46	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet above grade, to avoid any potential significant air quality impacts.
A21	3689	25, 26	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A22	3689	12, 19, 20, 21, 22, 23, 24	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A24	3703	7, 8, 9	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A25	3703	35, 36	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A26	3707	7, 15, 16	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A28	3722	28	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 84 feet away from the lot line facing New Jersey Avenue, to avoid any potential significant air quality impacts.
A32	3951	42	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A34	3953	45	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A37	3961	26, 27	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.

**Table F-2
(E) Designations for Potential Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
A38	3961	29, 30	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.
A40	3965	3, 4	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet above grade, to avoid any potential significant air quality impacts.
A41	3965	6, 7	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 10 feet away from the lot line facing Liberty Avenue, to avoid any potential significant air quality impacts.
A42	3965	32, 33	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.
A43	3967	19, 20, 21, 22, 24, 25	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A47	3972	20, 22	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A48	3976	31, 35	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A51	3989	20, 24, 25	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A52	3995	29, 31, 32, 129	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A58	4154	92, 93, 94, 95	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 20 feet away from the lot line facing Logan Street, to avoid any potential significant air quality impacts.
A59	3689	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A62	3962	9	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at the highest rooftop of the site, to avoid any potential significant air quality impacts.
A63	3958	49	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.

**Table F-2
(E) Designations for Potential Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
A64	4137	44	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A65	3705	16	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A66	3670	25, 27	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 100 feet above grade, to avoid any potential significant air quality impacts.
A67	3672	48, 49, 50, 51	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 20 feet away from the lot line facing Wyona Street, to avoid any potential significant air quality impacts.
A68	3686	15, 16, 17	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A69	3686	19, 21	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A70	3687	112	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A71	3689	11	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A72	3691	14, 15, 16, 18	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A74	3936	42	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A76	3959	52	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A77	3959	54	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.

**Table F-2
(E) Designations for Potential Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
A79	3960	58	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A80	3962	1, 2	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A81	3963	8	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 60 feet away from the lot line facing Schenck Avenue, to avoid any potential significant air quality impacts.
A82	3963	18	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 10 feet away from the lot line facing Atlantic Avenue, to avoid any potential significant air quality impacts.
A84	3964	1, 33, 34, 35	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A85	3965	1	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 90 feet above grade, to avoid any potential significant air quality impacts.
A86	3965	11	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A87	3967	13, 15	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A89	3971	24, 25, 26	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A90	3973	57, 58	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A93	4005	19, 20, 21	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A94	4017	22, 25	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 110 feet above grade, to avoid any potential significant air quality impacts.
A96	4137	39, 43	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.

**Table F-2
(E) Designations for Potential Development Sites (HVAC Restrictions)**

Development Site	Block	Lots	Proposed (E) Designation
A97	4137	56, 63	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 150 feet above grade, to avoid any potential significant air quality impacts.
A99	4141	1, 4	Any new residential and/or commercial development must use HVAC system fitted with low NOx (30ppm) burners firing only natural gas, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 115 feet above grade and located at least 40 feet away from the lot line facing Dinsmore Place, to avoid any potential significant air quality impacts.
A100	4141	27, 30	Any new residential and/or commercial development must use HVAC system fitted with low NOx (30ppm) burners firing only natural gas, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 40 feet away from the lot line facing Chestnut Street, to avoid any potential significant air quality impacts.
A101	4141	33, 35, 39	Any new residential and/or commercial development must use HVAC system fitted with low NOx (30ppm) burners firing natural gas, and ensure that the heating, ventilating and air conditioning stack(s) is located at least 115 feet above grade and located at least 40 feet away from the lot line facing Dinsmore Place and at least 25 feet from the lot line facing Chestnut Street, to avoid any potential significant air quality impacts.
A102	4156	1, 45, 50	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A105	4214	1, 6	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.
A106	3988	28, 34, 35	Any new residential and/or commercial development must exclusively use natural gas as the type of fuel for HVAC systems.