

Draft Engineering Evaluation
Avana Apartments
355 North Wolfe Road, Sunnyvale, California 94085
Facility ID 202794
Application No. 665893

Project Description: Sub-Slab Depressurization/Vapor Intrusion Mitigation Systems

Background

On behalf of GSIC II Sunnyvale Owner, LP, Terracon Consultants, Inc. (Terracon) has applied for an Authority to Construct for the following equipment:

- S-1 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 1)**
Four (4) PressureTech PT8, Maximum 50 CFM each
200 CFM total
Unabated

- S-2 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 2)**
Four (4) PressureTech PT8, Maximum 50 CFM each
200 CFM total
Unabated

- S-3 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 3)**
Three (3) RadonAway GP301 Pro Series, Maximum 64 CFM each
One (1) PressureTech PT8, Maximum 50 CFM
242 CFM total
Unabated

- S-4 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 4)**
One (1) RadonAway GP301 Pro Series, Maximum 64 CFM
Two (2) PressureTech PT8, Maximum 50 CFM each
One (1) PressureTech PT16, Maximum 67 CFM
231 CFM total
Unabated

- S-5 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Three (3) Blowers (Building 7)**
Two (2) RadonAway GP301 Pro Series, Maximum 64 CFM each
One (1) PressureTech PT8, Maximum 50 CFM
178 CFM total
Unabated

- S-6 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 8)**
One (1) RadonAway GP301 Pro Series, Maximum 64 CFM
One (1) PressureTech PT8, Maximum 50 CFM
Two (2) PressureTech PT16, Maximum 67 CFM each
248 CFM total
Unabated

- S-7 **Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Two (2) Blowers (Clubhouse)**
Two (2) RadonAway GP301 Pro Series, Maximum 64 CFM each
128 CFM total
Unabated

The Avana Apartments (the Site) is a residential housing development in Sunnyvale, CA consisting of eight individual apartment buildings, and the “Clubhouse”, which includes a fitness center and the leasing center. Historical industrial operations near the present location of the Site have led to soil vapor contamination in the area. Based on the potential impacts from the known cases in the vicinity of the Site, Terracon conducted soil gas investigations in August and September 2021. Lab analysis of soil vapor beneath the Site shows the presence of various chlorinated/fluorinated, and non-chlorinated volatile organic compounds (VOC). To mitigate contaminated vapor intrusion into the buildings, the facility is proposing to install Sub-Slab Depressurization/Vapor Intrusion Mitigation systems (SSD/VIMS) in 7 of the 9 buildings on site.

The SSD/VIMS are proposed to be installed in Buildings 1-4, 7-8, and the Clubhouse. There will be a total of twenty-five (25) vacuum blowers and twenty-five (25) emission points. However, the SSD/VIMS located on each building will be grouped into one source by building, each with up to four (4) individual vacuum blowers and emission points. Soil vapor will be extracted by the blowers and vented to the atmosphere through emission points on the roofs of the buildings. No abatement is proposed for any system. The source breakdown and description by building is summarized in Table 1 below.

Table 1. Facility ID 202794 Building/Source Breakdown					
Building	Source ID	Emission Point ID	Vacuum Blower Model	Blower Max Flow Rate (CFM)	Total Building/Source Flow Rate (CFM)
Bldg 1	S-1	P-1	PressureTech PT8	50	200
		P-2	PressureTech PT8	50	
		P-3	PressureTech PT8	50	
		P-4	PressureTech PT8	50	
Bldg 2	S-2	P-5	PressureTech PT8	50	200
		P-6	PressureTech PT8	50	
		P-7	PressureTech PT8	50	
		P-8	PressureTech PT8	50	
Bldg 3	S-3	P-9	GP301 Pro Series	64	242
		P-10	GP301 Pro Series	64	
		P-11	GP301 Pro Series	64	
		P-12	PressureTech PT8	50	
Bldg 4	S-4	P-13	PressureTech PT8	50	231
		P-14	PressureTech PT16	67	
		P-15	GP301 Pro Series	64	
		P-16	PressureTech PT8	50	
Bldg 7	S-5	P-17	GP301 Pro Series	64	178
		P-18	PressureTech PT8	50	
		P-19	GP301 Pro Series	64	
Bldg 8	S-6	P-20	PressureTech PT16	67	248
		P-21	PressureTech PT8	50	
		P-22	PressureTech PT16	67	
		P-23	GP301 Pro Series	64	
Clubhouse	S-7	P-24	GP301 Pro Series	64	128
		P-25	GP301 Pro Series	64	

Emissions are based on laboratory results of soil vapor submitted in this application for the site. Some of the SSD/VIMS on the northern portion of the property will be located within 1,000 ft of a K-12 school,

therefore this application is subject to a public notice. Procedures are outlined in the conditions found below.

Emission Calculations

Soil vapor data will be used to estimate precursor organic compound (POC), non-precursor organic compound (NPOC), and toxic air contaminant (TAC) emissions. It is assumed that the equipment will operate 24 hours a day, 365 days a year. The following are assumptions used to estimate emissions.

- Operating conditions: Pressure = 1 Atm; Inlet Temperature = 21°C; 1 mole occupies 24.15 Liters (or 386.8 ft³/lb-mol)
- The inlet concentration of pollutants corresponds to the maximum concentration found from lab analysis of soil vapor. The pollutant inlet concentration is assumed to be the same for each source.
- No abatement is proposed.
- POC/NPOC cumulative emissions are based on the sum of all POC/NPOC found in soil vapor data.
- TAC emissions will be based on soil vapor data submitted with this application.
- The influent flow rate for each source corresponds to the flow rates given in Table 1 of this evaluation. The total flow rate for all sources is 1,427 cfm.

Table 2 below summarizes the pollutants, pollutant designations, and inlet concentrations that will be used to estimate emissions for all sources.

Table 2. Pollutant Overview & Inlet Concentrations (All Sources)					
Pollutant	CAS	Pollutant Designation			Inlet Concentration (µg/m³)
		POC	NPOC	TAC	
1,1,1-Trichloroethane	71-55-6		X	X	3.1
1,2,4-Trimethylbenzene	108-67-8	X			9.6
1,2-Dichloroethane	107-06-2	X		X	2.1
1,2-Dichloropropane	78-87-5	X			0.23
2-Butanone	78-93-3	X		X	260
2-Hexanone	591-78-6	X			27
Acetone	67-64-1		X		723
Benzene	71-43-2	X		X	34
Bromodichloromethane	75-27-4	X			0.42
Carbon Disulfide	75-15-0	X		X	11
Carbon tetrachloride	56-23-5	X		X	0.87
Chloroform	67-66-3	X		X	5.3
Chloromethane	74-87-3	X			7.2
Cyclohexane	110-82-7	X			146
Ethanol	64-17-5	X			2,500
Ethyl Acetate	141-78-6	X			133
Ethylbenzene	100-41-4	X		X	9
1,1,2-Trichlorotrifluoroethane	76-13-1		X		3.6
Dichlorodifluoromethane	75-71-8		X		3.4
2-propanol	67-63-0	X		X	218
Methyl tertiary butyl ether	1634-04-4	X		X	16.1

Naphthalene	91-20-3	X		X	9.5
n-Heptane	142-82-5	X			67.1
n-Hexane	110-54-3	X		X	45
Propylene	115-07-1	X		X	19
Styrene	100-42-5	X		X	10.4
Tetrachloroethene	127-18-4		X	X	17
Tetrahydrofuran	109-99-9	X			7.7
Toluene	108-88-3	X		X	67.1
trans-1,2-Dichloroethene	156-60-5		X		0.22
Trichloroethene	79-01-6	X		X	19
Trichlorofluoromethane	75-69-4		X		5.5
Vinyl chloride	75-01-4	X		X	0.42
Xylenes (Total)	1330-20-7	X		X	39

Notes:

- Total Xylenes is the sum of m-,p-, and o-Xylenes.

The following tables summarize the pollutant and organics emissions from each individual source.

Table 3. Emissions Review for SSD/VIMS at Building 1 (S-1)					
S-1 Flow Rate:	200 cfm	Emission Rates			
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	2.32E-06	5.57E-05	2.03E-02	1.02E-05
1,2,4-Trimethylbenzene	108-67-8	7.19E-06	1.72E-04	6.29E-02	3.15E-05
1,2-Dichloroethane	107-06-2	1.57E-06	3.77E-05	1.38E-02	6.88E-06
1,2-Dichloropropane	78-87-5	1.72E-07	4.13E-06	1.51E-03	7.54E-07
2-Butanone	78-93-3	1.95E-04	4.67E-03	1.70E+00	8.52E-04
2-Hexanone	591-78-6	2.02E-05	4.85E-04	1.77E-01	8.85E-05
Acetone	67-64-1	5.41E-04	1.30E-02	4.74E+00	2.37E-03
Benzene	71-43-2	2.54E-05	6.11E-04	2.23E-01	1.11E-04
Bromodichloromethane	75-27-4	3.14E-07	7.54E-06	2.75E-03	1.38E-06
Carbon Disulfide	75-15-0	8.23E-06	1.98E-04	7.21E-02	3.61E-05
Carbon tetrachloride	56-23-5	6.51E-07	1.56E-05	5.70E-03	2.85E-06
Chloroform	67-66-3	3.97E-06	9.52E-05	3.47E-02	1.74E-05
Chloromethane	74-87-3	5.39E-06	1.29E-04	4.72E-02	2.36E-05
Cyclohexane	110-82-7	1.09E-04	2.62E-03	9.57E-01	4.79E-04
Ethanol	64-17-5	1.87E-03	4.49E-02	1.64E+01	8.20E-03
Ethyl Acetate	141-78-6	9.95E-05	2.39E-03	8.72E-01	4.36E-04
Ethylbenzene	100-41-4	6.74E-06	1.62E-04	5.90E-02	2.95E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	2.69E-06	6.47E-05	2.36E-02	1.18E-05
Dichlorodifluoromethane	75-71-8	2.54E-06	6.11E-05	2.23E-02	1.11E-05
2-propanol	67-63-0	1.63E-04	3.92E-03	1.43E+00	7.15E-04
Methyl tertiary butyl ether	1634-04-4	1.21E-05	2.89E-04	1.06E-01	5.28E-05
Naphthalene	91-20-3	7.11E-06	1.71E-04	6.23E-02	3.11E-05

n-Heptane	142-82-5	5.02E-05	1.21E-03	4.40E-01	2.20E-04
n-Hexane	110-54-3	3.37E-05	8.08E-04	2.95E-01	1.48E-04
Propylene	115-07-1	1.42E-05	3.41E-04	1.25E-01	6.23E-05
Styrene	100-42-5	7.78E-06	1.87E-04	6.82E-02	3.41E-05
Tetrachloroethene	127-18-4	1.27E-05	3.05E-04	1.11E-01	5.57E-05
Tetrahydrofuran	109-99-9	5.76E-06	1.38E-04	5.05E-02	2.52E-05
Toluene	108-88-3	5.02E-05	1.21E-03	4.40E-01	2.20E-04
trans-1,2-Dichloroethene	156-60-5	1.65E-07	3.95E-06	1.44E-03	7.21E-07
Trichloroethene	79-01-6	1.42E-05	3.41E-04	1.25E-01	6.23E-05
Trichlorofluoromethane	75-69-4	4.12E-06	9.88E-05	3.61E-02	1.80E-05
Vinyl chloride	75-01-4	3.14E-07	7.54E-06	2.75E-03	1.38E-06
Xylenes (Total)	1330-20-7	2.92E-05	7.01E-04	2.56E-01	1.28E-04
TOTAL POC		2.74E-03	6.58E-02	24.02	0.012
TOTAL NPOC		5.66E-04	1.36E-02	4.96	2.48E-03

Table 4. Emissions Review for SSD/VIMS at Building 2 (S-2)

S-2 Flow Rate:		Emission Rates			
200 cfm		Hourly	Daily	Annual	Annual
Pollutant	CAS	(lbs/hr)	(lbs/day)	(lbs/yr)	(tons/yr)
1,1,1-Trichloroethane	71-55-6	2.32E-06	5.57E-05	2.03E-02	1.02E-05
1,2,4-Trimethylbenzene	108-67-8	7.19E-06	1.72E-04	6.29E-02	3.15E-05
1,2-Dichloroethane	107-06-2	1.57E-06	3.77E-05	1.38E-02	6.88E-06
1,2-Dichloropropane	78-87-5	1.72E-07	4.13E-06	1.51E-03	7.54E-07
2-Butanone	78-93-3	1.95E-04	4.67E-03	1.70E+00	8.52E-04
2-Hexanone	591-78-6	2.02E-05	4.85E-04	1.77E-01	8.85E-05
Acetone	67-64-1	5.41E-04	1.30E-02	4.74E+00	2.37E-03
Benzene	71-43-2	2.54E-05	6.11E-04	2.23E-01	1.11E-04
Bromodichloromethane	75-27-4	3.14E-07	7.54E-06	2.75E-03	1.38E-06
Carbon Disulfide	75-15-0	8.23E-06	1.98E-04	7.21E-02	3.61E-05
Carbon tetrachloride	56-23-5	6.51E-07	1.56E-05	5.70E-03	2.85E-06
Chloroform	67-66-3	3.97E-06	9.52E-05	3.47E-02	1.74E-05
Chloromethane	74-87-3	5.39E-06	1.29E-04	4.72E-02	2.36E-05
Cyclohexane	110-82-7	1.09E-04	2.62E-03	9.57E-01	4.79E-04
Ethanol	64-17-5	1.87E-03	4.49E-02	1.64E+01	8.20E-03
Ethyl Acetate	141-78-6	9.95E-05	2.39E-03	8.72E-01	4.36E-04
Ethylbenzene	100-41-4	6.74E-06	1.62E-04	5.90E-02	2.95E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	2.69E-06	6.47E-05	2.36E-02	1.18E-05
Dichlorodifluoromethane	75-71-8	2.54E-06	6.11E-05	2.23E-02	1.11E-05
2-propanol	67-63-0	1.63E-04	3.92E-03	1.43E+00	7.15E-04
Methyl tertiary butyl ether	1634-04-4	1.21E-05	2.89E-04	1.06E-01	5.28E-05
Naphthalene	91-20-3	7.11E-06	1.71E-04	6.23E-02	3.11E-05
n-Heptane	142-82-5	5.02E-05	1.21E-03	4.40E-01	2.20E-04
n-Hexane	110-54-3	3.37E-05	8.08E-04	2.95E-01	1.48E-04

Propylene	115-07-1	1.42E-05	3.41E-04	1.25E-01	6.23E-05
Styrene	100-42-5	7.78E-06	1.87E-04	6.82E-02	3.41E-05
Tetrachloroethene	127-18-4	1.27E-05	3.05E-04	1.11E-01	5.57E-05
Tetrahydrofuran	109-99-9	5.76E-06	1.38E-04	5.05E-02	2.52E-05
Toluene	108-88-3	5.02E-05	1.21E-03	4.40E-01	2.20E-04
trans-1,2-Dichloroethene	156-60-5	1.65E-07	3.95E-06	1.44E-03	7.21E-07
Trichloroethene	79-01-6	1.42E-05	3.41E-04	1.25E-01	6.23E-05
Trichlorofluoromethane	75-69-4	4.12E-06	9.88E-05	3.61E-02	1.80E-05
Vinyl chloride	75-01-4	3.14E-07	7.54E-06	2.75E-03	1.38E-06
Xylenes (Total)	1330-20-7	2.92E-05	7.01E-04	2.56E-01	1.28E-04
TOTAL POC		2.74E-03	6.58E-02	24.02	0.012
TOTAL NPOC		5.66E-04	1.36E-02	4.96	2.48E-03

Table 5. Emissions Review for SSD/VIMS at Building 3 (S-3)					
S-3 Flow Rate:	242 cfm	Emission Rates			
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	2.81E-06	6.74E-05	2.46E-02	1.23E-05
1,2,4-Trimethylbenzene	108-67-8	8.69E-06	2.09E-04	7.62E-02	3.81E-05
1,2-Dichloroethane	107-06-2	1.90E-06	4.56E-05	1.67E-02	8.33E-06
1,2-Dichloropropane	78-87-5	2.08E-07	5.00E-06	1.82E-03	9.12E-07
2-Butanone	78-93-3	2.35E-04	5.65E-03	2.06E+00	1.03E-03
2-Hexanone	591-78-6	2.45E-05	5.87E-04	2.14E-01	1.07E-04
Acetone	67-64-1	6.55E-04	1.57E-02	5.74E+00	2.87E-03
Benzene	71-43-2	3.08E-05	7.39E-04	2.70E-01	1.35E-04
Bromodichloromethane	75-27-4	3.80E-07	9.13E-06	3.33E-03	1.67E-06
Carbon Disulfide	75-15-0	9.96E-06	2.39E-04	8.73E-02	4.36E-05
Carbon tetrachloride	56-23-5	7.88E-07	1.89E-05	6.90E-03	3.45E-06
Chloroform	67-66-3	4.80E-06	1.15E-04	4.20E-02	2.10E-05
Chloromethane	74-87-3	6.52E-06	1.56E-04	5.71E-02	2.86E-05
Cyclohexane	110-82-7	1.32E-04	3.17E-03	1.16E+00	5.79E-04
Ethanol	64-17-5	2.26E-03	5.43E-02	1.98E+01	9.92E-03
Ethyl Acetate	141-78-6	1.20E-04	2.89E-03	1.06E+00	5.28E-04
Ethylbenzene	100-41-4	8.15E-06	1.96E-04	7.14E-02	3.57E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	3.26E-06	7.82E-05	2.86E-02	1.43E-05
Dichlorodifluoromethane	75-71-8	3.08E-06	7.39E-05	2.70E-02	1.35E-05
2-propanol	67-63-0	1.97E-04	4.74E-03	1.73E+00	8.65E-04
Methyl tertiary butyl ether	1634-04-4	1.46E-05	3.50E-04	1.28E-01	6.39E-05
Naphthalene	91-20-3	8.60E-06	2.06E-04	7.54E-02	3.77E-05
n-Heptane	142-82-5	6.08E-05	1.46E-03	5.32E-01	2.66E-04
n-Hexane	110-54-3	4.08E-05	9.78E-04	3.57E-01	1.79E-04
Propylene	115-07-1	1.72E-05	4.13E-04	1.51E-01	7.54E-05
Styrene	100-42-5	9.42E-06	2.26E-04	8.25E-02	4.13E-05

Tetrachloroethene	127-18-4	1.54E-05	3.70E-04	1.35E-01	6.74E-05
Tetrahydrofuran	109-99-9	6.97E-06	1.67E-04	6.11E-02	3.05E-05
Toluene	108-88-3	6.08E-05	1.46E-03	5.32E-01	2.66E-04
trans-1,2-Dichloroethene	156-60-5	1.99E-07	4.78E-06	1.75E-03	8.73E-07
Trichloroethene	79-01-6	1.72E-05	4.13E-04	1.51E-01	7.54E-05
Trichlorofluoromethane	75-69-4	4.98E-06	1.20E-04	4.36E-02	2.18E-05
Vinyl chloride	75-01-4	3.80E-07	9.13E-06	3.33E-03	1.67E-06
Xylenes (Total)	1330-20-7	3.53E-05	8.48E-04	3.09E-01	1.55E-04
TOTAL POC		3.32E-03	7.96E-02	29.07	0.015
TOTAL NPOC		6.85E-04	1.64E-02	6.0	3.00E-03

Table 6. Emissions Review for SSD/VIMS at Building 4 (S-4)

Pollutant	CAS	Emission Rates			
		Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	2.68E-06	6.43E-05	2.35E-02	1.17E-05
1,2,4-Trimethylbenzene	108-67-8	8.30E-06	1.99E-04	7.27E-02	3.63E-05
1,2-Dichloroethane	107-06-2	1.82E-06	4.36E-05	1.59E-02	7.95E-06
1,2-Dichloropropane	78-87-5	1.99E-07	4.77E-06	1.74E-03	8.71E-07
2-Butanone	78-93-3	2.25E-04	5.39E-03	1.97E+00	9.84E-04
2-Hexanone	591-78-6	2.33E-05	5.60E-04	2.04E-01	1.02E-04
Acetone	67-64-1	6.25E-04	1.50E-02	5.48E+00	2.74E-03
Benzene	71-43-2	2.94E-05	7.05E-04	2.57E-01	1.29E-04
Bromodichloromethane	75-27-4	3.63E-07	8.71E-06	3.18E-03	1.59E-06
Carbon Disulfide	75-15-0	9.51E-06	2.28E-04	8.33E-02	4.17E-05
Carbon tetrachloride	56-23-5	7.52E-07	1.81E-05	6.59E-03	3.29E-06
Chloroform	67-66-3	4.58E-06	1.10E-04	4.01E-02	2.01E-05
Chloromethane	74-87-3	6.22E-06	1.49E-04	5.45E-02	2.73E-05
Cyclohexane	110-82-7	1.26E-04	3.03E-03	1.11E+00	5.53E-04
Ethanol	64-17-5	2.16E-03	5.19E-02	1.89E+01	9.47E-03
Ethyl Acetate	141-78-6	1.15E-04	2.76E-03	1.01E+00	5.04E-04
Ethylbenzene	100-41-4	7.78E-06	1.87E-04	6.82E-02	3.41E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	3.11E-06	7.47E-05	2.73E-02	1.36E-05
Dichlorodifluoromethane	75-71-8	2.94E-06	7.05E-05	2.57E-02	1.29E-05
2-propanol	67-63-0	1.88E-04	4.52E-03	1.65E+00	8.25E-04
Methyl tertiary butyl ether	1634-04-4	1.39E-05	3.34E-04	1.22E-01	6.10E-05
Naphthalene	91-20-3	8.21E-06	1.97E-04	7.19E-02	3.60E-05
n-Heptane	142-82-5	5.80E-05	1.39E-03	5.08E-01	2.54E-04
n-Hexane	110-54-3	3.89E-05	9.34E-04	3.41E-01	1.70E-04
Propylene	115-07-1	1.64E-05	3.94E-04	1.44E-01	7.19E-05
Styrene	100-42-5	8.99E-06	2.16E-04	7.88E-02	3.94E-05
Tetrachloroethene	127-18-4	1.47E-05	3.53E-04	1.29E-01	6.44E-05
Tetrahydrofuran	109-99-9	6.66E-06	1.60E-04	5.83E-02	2.92E-05

Toluene	108-88-3	5.80E-05	1.39E-03	5.08E-01	2.54E-04
trans-1,2-Dichloroethene	156-60-5	1.90E-07	4.56E-06	1.67E-03	8.33E-07
Trichloroethene	79-01-6	1.64E-05	3.94E-04	1.44E-01	7.19E-05
Trichlorofluoromethane	75-69-4	4.75E-06	1.14E-04	4.17E-02	2.08E-05
Vinyl chloride	75-01-4	3.63E-07	8.71E-06	3.18E-03	1.59E-06
Xylenes (Total)	1330-20-7	3.37E-05	8.09E-04	2.95E-01	1.48E-04
TOTAL POC		3.17E-03	7.60E-02	27.75	0.014
TOTAL NPOC		6.53E-04	1.57E-02	5.72	2.86E-03

Table 7. Emissions Review for SSD/VIMS at Building 7 (S-5)

S-5 Flow Rate: 178 cfm		Emission Rates			
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	2.07E-06	4.96E-05	1.81E-02	9.04E-06
1,2,4-Trimethylbenzene	108-67-8	6.39E-06	1.53E-04	5.60E-02	2.80E-05
1,2-Dichloroethane	107-06-2	1.40E-06	3.36E-05	1.23E-02	6.13E-06
1,2-Dichloropropane	78-87-5	1.53E-07	3.68E-06	1.34E-03	6.71E-07
2-Butanone	78-93-3	1.73E-04	4.16E-03	1.52E+00	7.59E-04
2-Hexanone	591-78-6	1.80E-05	4.32E-04	1.58E-01	7.88E-05
Acetone	67-64-1	4.82E-04	1.16E-02	4.22E+00	2.11E-03
Benzene	71-43-2	2.26E-05	5.44E-04	1.98E-01	9.92E-05
Bromodichloromethane	75-27-4	2.80E-07	6.71E-06	2.45E-03	1.23E-06
Carbon Disulfide	75-15-0	7.33E-06	1.76E-04	6.42E-02	3.21E-05
Carbon tetrachloride	56-23-5	5.80E-07	1.39E-05	5.08E-03	2.54E-06
Chloroform	67-66-3	3.53E-06	8.47E-05	3.09E-02	1.55E-05
Chloromethane	74-87-3	4.80E-06	1.15E-04	4.20E-02	2.10E-05
Cyclohexane	110-82-7	9.73E-05	2.33E-03	8.52E-01	4.26E-04
Ethanol	64-17-5	1.67E-03	4.00E-02	1.46E+01	7.29E-03
Ethyl Acetate	141-78-6	8.86E-05	2.13E-03	7.76E-01	3.88E-04
Ethylbenzene	100-41-4	6.00E-06	1.44E-04	5.25E-02	2.63E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	2.40E-06	5.76E-05	2.10E-02	1.05E-05
Dichlorodifluoromethane	75-71-8	2.26E-06	5.44E-05	1.98E-02	9.92E-06
2-propanol	67-63-0	1.45E-04	3.49E-03	1.27E+00	6.36E-04
Methyl tertiary butyl ether	1634-04-4	1.07E-05	2.57E-04	9.39E-02	4.70E-05
Naphthalene	91-20-3	6.33E-06	1.52E-04	5.54E-02	2.77E-05
n-Heptane	142-82-5	4.47E-05	1.07E-03	3.92E-01	1.96E-04
n-Hexane	110-54-3	3.00E-05	7.19E-04	2.63E-01	1.31E-04
Propylene	115-07-1	1.27E-05	3.04E-04	1.11E-01	5.54E-05
Styrene	100-42-5	6.93E-06	1.66E-04	6.07E-02	3.03E-05
Tetrachloroethene	127-18-4	1.13E-05	2.72E-04	9.92E-02	4.96E-05
Tetrahydrofuran	109-99-9	5.13E-06	1.23E-04	4.49E-02	2.25E-05
Toluene	108-88-3	4.47E-05	1.07E-03	3.92E-01	1.96E-04
trans-1,2-Dichloroethene	156-60-5	1.47E-07	3.52E-06	1.28E-03	6.42E-07

Trichloroethene	79-01-6	1.27E-05	3.04E-04	1.11E-01	5.54E-05
Trichlorofluoromethane	75-69-4	3.66E-06	8.79E-05	3.21E-02	1.60E-05
Vinyl chloride	75-01-4	2.80E-07	6.71E-06	2.45E-03	1.23E-06
Xylenes (Total)	1330-20-7	2.60E-05	6.23E-04	2.28E-01	1.14E-04
TOTAL POC		2.44E-03	5.86E-02	21.38	0.011
TOTAL NPOC		5.03E-04	1.21E-02	4.41	2.21E-03

Table 8. Emissions Review for SSD/VIMS at Building 8 (S-6)					
S-6 Flow Rate:		Emission Rates			
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	2.88E-06	6.91E-05	2.52E-02	1.26E-05
1,2,4-Trimethylbenzene	108-67-8	8.91E-06	2.14E-04	7.80E-02	3.90E-05
1,2-Dichloroethane	107-06-2	1.95E-06	4.68E-05	1.71E-02	8.54E-06
1,2-Dichloropropane	78-87-5	2.13E-07	5.12E-06	1.87E-03	9.35E-07
2-Butanone	78-93-3	2.41E-04	5.79E-03	2.11E+00	1.06E-03
2-Hexanone	591-78-6	2.51E-05	6.01E-04	2.20E-01	1.10E-04
Acetone	67-64-1	6.71E-04	1.61E-02	5.88E+00	2.94E-03
Benzene	71-43-2	3.16E-05	7.57E-04	2.76E-01	1.38E-04
Bromodichloromethane	75-27-4	3.90E-07	9.36E-06	3.41E-03	1.71E-06
Carbon Disulfide	75-15-0	1.02E-05	2.45E-04	8.94E-02	4.47E-05
Carbon tetrachloride	56-23-5	8.07E-07	1.94E-05	7.07E-03	3.54E-06
Chloroform	67-66-3	4.92E-06	1.18E-04	4.31E-02	2.15E-05
Chloromethane	74-87-3	6.68E-06	1.60E-04	5.85E-02	2.93E-05
Cyclohexane	110-82-7	1.36E-04	3.25E-03	1.19E+00	5.93E-04
Ethanol	64-17-5	2.32E-03	5.57E-02	2.03E+01	1.02E-02
Ethyl Acetate	141-78-6	1.23E-04	2.96E-03	1.08E+00	5.41E-04
Ethylbenzene	100-41-4	8.35E-06	2.00E-04	7.32E-02	3.66E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	3.34E-06	8.02E-05	2.93E-02	1.46E-05
Dichlorodifluoromethane	75-71-8	3.16E-06	7.57E-05	2.76E-02	1.38E-05
2-propanol	67-63-0	2.02E-04	4.86E-03	1.77E+00	8.86E-04
Methyl tertiary butyl ether	1634-04-4	1.49E-05	3.59E-04	1.31E-01	6.54E-05
Naphthalene	91-20-3	8.82E-06	2.12E-04	7.72E-02	3.86E-05
n-Heptane	142-82-5	6.23E-05	1.49E-03	5.46E-01	2.73E-04
n-Hexane	110-54-3	4.18E-05	1.00E-03	3.66E-01	1.83E-04
Propylene	115-07-1	1.76E-05	4.23E-04	1.54E-01	7.72E-05
Styrene	100-42-5	9.65E-06	2.32E-04	8.46E-02	4.23E-05
Tetrachloroethene	127-18-4	1.58E-05	3.79E-04	1.38E-01	6.91E-05
Tetrahydrofuran	109-99-9	7.15E-06	1.72E-04	6.26E-02	3.13E-05
Toluene	108-88-3	6.23E-05	1.49E-03	5.46E-01	2.73E-04
trans-1,2-Dichloroethene	156-60-5	2.04E-07	4.90E-06	1.79E-03	8.94E-07
Trichloroethene	79-01-6	1.76E-05	4.23E-04	1.54E-01	7.72E-05
Trichlorofluoromethane	75-69-4	5.10E-06	1.23E-04	4.47E-02	2.24E-05
Vinyl chloride	75-01-4	3.90E-07	9.36E-06	3.41E-03	1.71E-06

Xylenes (Total)	1330-20-7	3.62E-05	8.69E-04	3.17E-01	1.59E-04
TOTAL POC		3.40E-03	8.16E-02	29.79	0.015
TOTAL NPOC		7.01E-04	1.68E-02	6.14	3.07E-03

Table 9. Emissions Review for SSD/VIMS at Clubhouse (S-7)

S-7 Flow Rate:		Emission Rates			
	128 cfm				
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	1.48E-06	3.56E-05	1.30E-02	6.50E-06
1,2,4-Trimethylbenzene	108-67-8	4.60E-06	1.10E-04	4.03E-02	2.01E-05
1,2-Dichloroethane	107-06-2	1.01E-06	2.41E-05	8.81E-03	4.41E-06
1,2-Dichloropropane	78-87-5	1.10E-07	2.64E-06	9.65E-04	4.83E-07
2-Butanone	78-93-3	1.25E-04	2.99E-03	1.09E+00	5.46E-04
2-Hexanone	591-78-6	1.29E-05	3.10E-04	1.13E-01	5.66E-05
Acetone	67-64-1	3.46E-04	8.31E-03	3.03E+00	1.52E-03
Benzene	71-43-2	1.63E-05	3.91E-04	1.43E-01	7.13E-05
Bromodichloromethane	75-27-4	2.01E-07	4.83E-06	1.76E-03	8.81E-07
Carbon Disulfide	75-15-0	5.27E-06	1.26E-04	4.62E-02	2.31E-05
Carbon tetrachloride	56-23-5	4.17E-07	1.00E-05	3.65E-03	1.83E-06
Chloroform	67-66-3	2.54E-06	6.09E-05	2.22E-02	1.11E-05
Chloromethane	74-87-3	3.45E-06	8.28E-05	3.02E-02	1.51E-05
Cyclohexane	110-82-7	6.99E-05	1.68E-03	6.13E-01	3.06E-04
Ethanol	64-17-5	1.20E-03	2.87E-02	1.05E+01	5.25E-03
Ethyl Acetate	141-78-6	6.37E-05	1.53E-03	5.58E-01	2.79E-04
Ethylbenzene	100-41-4	4.31E-06	1.03E-04	3.78E-02	1.89E-05
1,1,2-Trichlorotrifluoroethane	76-13-1	1.72E-06	4.14E-05	1.51E-02	7.55E-06
Dichlorodifluoromethane	75-71-8	1.63E-06	3.91E-05	1.43E-02	7.13E-06
2-propanol	67-63-0	1.04E-04	2.51E-03	9.15E-01	4.57E-04
Methyl tertiary butyl ether	1634-04-4	7.71E-06	1.85E-04	6.76E-02	3.38E-05
Naphthalene	91-20-3	4.55E-06	1.09E-04	3.99E-02	1.99E-05
n-Heptane	142-82-5	3.21E-05	7.71E-04	2.82E-01	1.41E-04
n-Hexane	110-54-3	2.16E-05	5.17E-04	1.89E-01	9.44E-05
Propylene	115-07-1	9.10E-06	2.18E-04	7.97E-02	3.99E-05
Styrene	100-42-5	4.98E-06	1.20E-04	4.36E-02	2.18E-05
Tetrachloroethene	127-18-4	8.14E-06	1.95E-04	7.13E-02	3.57E-05
Tetrahydrofuran	109-99-9	3.69E-06	8.85E-05	3.23E-02	1.62E-05
Toluene	108-88-3	3.21E-05	7.71E-04	2.82E-01	1.41E-04
trans-1,2-Dichloroethene	156-60-5	1.05E-07	2.53E-06	9.23E-04	4.62E-07
Trichloroethene	79-01-6	9.10E-06	2.18E-04	7.97E-02	3.99E-05
Trichlorofluoromethane	75-69-4	2.63E-06	6.32E-05	2.31E-02	1.15E-05
Vinyl chloride	75-01-4	2.01E-07	4.83E-06	1.76E-03	8.81E-07
Xylenes (Total)	1330-20-7	1.87E-05	4.48E-04	1.64E-01	8.18E-05
TOTAL POC		1.76E-03	4.21E-02	15.37	7.69E-03
TOTAL NPOC		3.62E-04	8.69E-03	3.17	1.59E-03

Table 10 below summarizes the pollutant and organics emissions from all seven sources combined.

Table 10. Emissions Review for All Sources (S-1 through S-7)					
Total Flow Rate:	1,427 cfm	Emission Rates			
Pollutant	CAS	Hourly (lbs/hr)	Daily (lbs/day)	Annual (lbs/yr)	Annual (tons/yr)
1,1,1-Trichloroethane	71-55-6	1.66E-05	3.97E-04	1.45E-01	7.25E-05
1,2,4-Trimethylbenzene	108-67-8	5.13E-05	1.23E-03	4.49E-01	2.25E-04
1,2-Dichloroethane	107-06-2	1.12E-05	2.69E-04	9.82E-02	4.91E-05
1,2-Dichloropropane	78-87-5	1.23E-06	2.95E-05	1.08E-02	5.38E-06
2-Butanone	78-93-3	1.39E-03	3.33E-02	1.22E+01	6.08E-03
2-Hexanone	591-78-6	1.44E-04	3.46E-03	1.26E+00	6.32E-04
Acetone	67-64-1	3.86E-03	9.27E-02	3.38E+01	1.69E-02
Benzene	71-43-2	1.82E-04	4.36E-03	1.59E+00	7.95E-04
Bromodichloromethane	75-27-4	2.24E-06	5.38E-05	1.96E-02	9.82E-06
Carbon Disulfide	75-15-0	5.87E-05	1.41E-03	5.15E-01	2.57E-04
Carbon tetrachloride	56-23-5	4.65E-06	1.12E-04	4.07E-02	2.03E-05
Chloroform	67-66-3	2.83E-05	6.79E-04	2.48E-01	1.24E-04
Chloromethane	74-87-3	3.85E-05	9.23E-04	3.37E-01	1.68E-04
Cyclohexane	110-82-7	7.80E-04	1.87E-02	6.83E+00	3.42E-03
Ethanol	64-17-5	1.34E-02	3.20E-01	1.17E+02	5.85E-02
Ethyl Acetate	141-78-6	7.10E-04	1.70E-02	6.22E+00	3.11E-03
Ethylbenzene	100-41-4	4.81E-05	1.15E-03	4.21E-01	2.11E-04
1,1,2-Trichlorotrifluoroethane	76-13-1	1.92E-05	4.61E-04	1.68E-01	8.42E-05
Dichlorodifluoromethane	75-71-8	1.82E-05	4.36E-04	1.59E-01	7.95E-05
2-propanol	67-63-0	1.16E-03	2.79E-02	1.02E+01	5.10E-03
Methyl tertiary butyl ether	1634-04-4	8.60E-05	2.06E-03	7.53E-01	3.77E-04
Naphthalene	91-20-3	5.07E-05	1.22E-03	4.44E-01	2.22E-04
n-Heptane	142-82-5	3.58E-04	8.60E-03	3.14E+00	1.57E-03
n-Hexane	110-54-3	2.40E-04	5.77E-03	2.11E+00	1.05E-03
Propylene	115-07-1	1.01E-04	2.44E-03	8.89E-01	4.44E-04
Styrene	100-42-5	5.55E-05	1.33E-03	4.87E-01	2.43E-04
Tetrachloroethene	127-18-4	9.08E-05	2.18E-03	7.95E-01	3.98E-04
Tetrahydrofuran	109-99-9	4.11E-05	9.87E-04	3.60E-01	1.80E-04
Toluene	108-88-3	3.58E-04	8.60E-03	3.14E+00	1.57E-03
trans-1,2-Dichloroethene	156-60-5	1.17E-06	2.82E-05	1.03E-02	5.15E-06
Trichloroethene	79-01-6	1.01E-04	2.44E-03	8.89E-01	4.44E-04
Trichlorofluoromethane	75-69-4	2.94E-05	7.05E-04	2.57E-01	1.29E-04
Vinyl chloride	75-01-4	2.24E-06	5.38E-05	1.96E-02	9.82E-06
Xylenes (Total)	1330-20-7	2.08E-04	5.00E-03	1.82E+00	9.12E-04
TOTAL POC		1.96E-02	0.470	171.41	0.086
TOTAL NPOC		4.04E-03	0.097	35.36	0.018

Cumulative Increase

Table 11. Cumulative Increase			
Pollutant	Current Permitted Emissions, Post 4/5/1991 (ton/yr)	Application New Emissions Increase (ton/yr)	New Cumulative Increase (ton/yr)
POC	0.000	0.086	0.086

Toxic Risk Screening

A project is subject to Regulation 2, Rule 5 if emissions of toxic air contaminants (TAC) exceed any acute or chronic trigger levels in Table 2-5-1 of Regulation 2-5. This is new facility so there are no related sources to include in the project. Therefore, the project review of TAC emissions will include only the emissions from the proposed sources in this application. Table 12 provides a summary of the project TAC emissions.

Table 12. Project Toxic Air Contaminant Emissions						
Pollutant	CAS #	Hourly Emission Rate (lb/hr)	Acute Trigger Level (lb/hr)	Annual Emission Rate (lb/yr)	Chronic Trigger Level (lb/yr)	Exceeds Acute or Chronic Trigger Level?
1,1,1-Trichloroethane	71-55-6	1.66E-05	3.00E+01	1.45E-01	3.90E+04	No
1,2-Dichloroethane	107-06-2	1.12E-05	-	9.82E-02	4.00E+00	No
2-Butanone	78-93-3	1.39E-03	5.80E+00	1.22E+01	-	No
Benzene	71-43-2	1.82E-04	1.20E-02	1.59E+00	2.90E+00	No
Carbon Disulfide	75-15-0	5.87E-05	2.70E+00	5.15E-01	3.10E+04	No
Carbon tetrachloride	56-23-5	4.65E-06	8.40E-01	4.07E-02	1.90E+00	No
Chloroform	67-66-3	2.83E-05	6.60E-02	2.48E-01	1.50E+01	No
Ethylbenzene	100-41-4	4.81E-05	-	4.21E-01	3.30E+01	No
2-propanol	67-63-0	1.16E-03	1.40E+00	1.02E+01	2.70E+05	No
Methyl tertiary butyl ether	1634-04-4	8.60E-05	-	7.53E-01	1.60E+02	No
Naphthalene	91-20-3	5.07E-05	-	4.44E-01	2.40E+00	No
n-Hexane	110-54-3	2.40E-04	-	2.11E+00	2.70E+05	No
Propylene	115-07-1	1.01E-04	-	8.89E-01	1.20E+05	No
Styrene	100-42-5	5.55E-05	9.30E+00	4.87E-01	3.50E+04	No
Tetrachloroethene	127-18-4	9.08E-05	8.80E+00	7.95E-01	1.40E+01	No
Toluene	108-88-3	3.58E-04	2.20E+00	3.14E+00	1.60E+04	No
Trichloroethene	79-01-6	1.01E-04	-	8.89E-01	4.10E+01	No
Vinyl chloride	75-01-4	2.24E-06	8.00E+01	1.96E-02	1.10E+00	No

TAC emissions from this project are not expected to exceed any applicable toxic trigger levels of Regulation 2-5, Table 2-5-1. Therefore, the requirements of Regulation 2-5 do not apply. The facility will be required to perform laboratory analysis to demonstrate that project emissions are below the toxic trigger levels of Regulation 2-5, Table 2-5-1.

Offsets

Pursuant to Regulation 2-2-302, offsets must be provided for any new or modified source at a facility that emits, or is permitted to emit, more than 10 tons per year of precursor organic compounds (POCs) or nitrogen oxides (NO_x). Furthermore, pursuant to Regulation 2-2-303 offsets must be provided for any new or modified source at a major facility with a cumulative increase that exceeds 1.0 ton per year of PM₁₀, PM_{2.5}, or sulfur dioxide (SO₂).

The facility is not expected to have a PTE greater than 10 tons per year of POC or NO_x, nor is the facility a major facility of PM₁₀, PM_{2.5}, and SO₂. Therefore, the requirements of Regulations 2-2-302 and 2-2-303 do not apply.

Best Available Control Technology (BACT)

In accordance with Regulation 2-2-301, Best Available Control Technology (BACT) is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxides (SO₂), particulate matter less than 10 micrometer (PM₁₀) and particulate matter less than 2.5 micrometer (PM_{2.5}).

NPOC and POC emissions are expected to be below 10 lb/day. Therefore, a BACT review is not required.

California Environmental Quality Act (CEQA)

This project is classified as ministerial under the District Regulation 2-1-311, because the engineering review for this project requires only the application of standard emission factors and established formulas as specified in Chapter 9.2 of the District's Permit Handbook. This review follows objective procedures and applies standard permit conditions; and therefore, the review of this project is not discretionary as defined by CEQA. Since this project is ministerial, it is not subject to CEQA review requirement of Regulation 2-1-310, and no further CEQA analysis is required.

Statement of Compliance**Regulation 8, Rule 47 – Air Stripping & Soil Vapor Extraction Operations**

Pursuant to Section 8-47-301, any soil vapor extraction operation (including sub-slab depressurization) which emits benzene, vinyl chloride, tetrachloroethene, methylene chloride, and/or trichloroethene shall be vented to a control device which reduces emissions to the atmosphere by at least 90 percent by weight. However, a source may be exempt from this abatement requirement per Section 8-47-113 if total emissions of the applicable compounds are less than one pound per day, and if the source passes a health risk screening analysis per Section 8-47-402.

All proposed sources will emit benzene, tetrachloroethene, trichloroethene, and vinyl chloride. Table 13 below provides a summary of the daily emissions of these compounds.

Table 13. Daily Emissions - Regulation 8, Rule 47 Compound Daily Emissions								
8-47 Compound	Daily Emissions per Source ID (lbs/day)							
	S-1	S-2	S-3	S-4	S-5	S-6	S-7	All Sources
Benzene	6.11E-04	6.11E-04	7.39E-04	7.05E-04	5.44E-04	7.57E-04	3.91E-04	4.36E-03
Tetrachloroethene	3.05E-04	3.05E-04	3.70E-04	3.53E-04	2.72E-04	3.79E-04	1.95E-04	2.18E-03
Trichloroethene	3.41E-04	3.41E-04	4.13E-04	3.94E-04	3.04E-04	4.23E-04	2.18E-04	2.44E-03
Vinyl Chloride	7.54E-06	7.54E-06	9.13E-06	8.71E-06	6.71E-06	9.36E-06	4.83E-06	5.38E-05
8-47 Compound Total	1.26E-03	1.26E-03	1.53E-03	1.46E-03	1.13E-03	1.57E-03	8.10E-04	9.03E-03

As shown in Table 13, emissions of the applicable compounds are well below one pound per day for each individual source, as well as all sources combined. Furthermore, the emission rates of these compounds are below their respective Table 2-5-1 acute and chronic trigger levels, as shown in Table 12. Therefore, all seven sources meet the health risk screening requirement of Section 8-47-402 and, per Section 8-47-113, are exempt from the emission control requirements of Section 8-47-301.

Pursuant to Section 8-47-302, any sub-slab depressurization operation that emits more than 15 lbs/day of total organic compounds shall vent emissions to a control device which reduces total organic compound emissions by at least 90% by weight.

As shown in Tables 3 through 10, total organic emissions from each source and all sources combined are expected to be well below 15 lbs/day. Therefore, all seven sources are not subject to the emission control requirements of Section 8-47-302.

Other Potential Regulatory Requirements

Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAPS) are not triggered.

Public Notification (Regulation 2-1-412)

The seven sources are not located in an overburdened community (OBC), but some will be located within 1,000 feet of The Kings Academy (Grades K-12) at 562 N. Britton Ave, Sunnyvale, CA 94085. The project is therefore subject to public notification requirements of Regulation 2-1-412. A public notice will be sent to all parents of students of the above-mentioned schools, and all residents within 1,000 feet of the facility. There will be a 30-day public comment period.

Permit Conditions

Permit Condition #27835 Applies to S-1, S-2, S-3, S-4, S-5, S-6, & S-7

1. The owner/operator of Sub-Slab Depressurization/Vapor Intrusion Mitigation system (S-1, S-2, S-3, S-4, S-5, S-6, and S-7) shall not exceed the individual and aggregate influent vapor flow rates listed below:

S-1 (Building 1):	200 scfm
S-2 (Building 2):	200 scfm
S-3 (Building 3):	242 scfm
S-4 (Building 4):	231 scfm
S-5 (Building 7):	178 scfm
S-6 (Building 8):	248 scfm
S-7 (Clubhouse):	128 scfm
Aggregate:	1,427 scfm

[Basis: Cumulative Increase, Toxics]

2. In no event shall the individual or combined toxic air contaminant (TAC) emissions from S-1, S-2, S-3, S-4, S-5, S-6, and S-7 exceed the trigger levels listed in Table 2-5-1 of Regulation 2, Rule 5. [Basis: Toxics]

3. The aggregate emissions from S-1, S-2, S-3, S-4, S-5, S-6, and S-7 shall not exceed 171.41 pounds of precursor organic compounds (POC) and 35.36 pounds of non-precursor organic compounds (NPOC) per 12-month consecutive period. [Basis: Cumulative Increase]
4. Upon initial start-up, the owner/operator shall take air samples from S-1, S-2, S-3, S-4, S-5, S-6, and S-7 for laboratory analysis using EPA Method TO-15. The air samples shall be taken at the following locations:
 - a. At the outlet of all twenty-five (25) blowers prior to venting to the atmosphere.

The owner/operator shall use the results from the laboratory report to calculate the total TAC, POC, and NPOC emissions emitted to the atmosphere, using the maximum design flowrate of S-1, S-2, S-3, S-4, S-5, S-6, and S-7. The owner/operator shall submit the laboratory report and calculated TAC, POC, and NPOC emissions within 21 days of the initial startup, to demonstrate compliance with Parts 2 & 3 of this condition. [Basis: Regulation 2-1-403]

5. The owner/operator shall maintain the following information for each month of operation:
 - a. Hours and time of operation.
 - b. Each emission test, analysis, or monitoring results logged in for the day of operation they were taken.
 - c. Total throughput of soil vapor from S-1, S-2, S-3, S-4, S-5, S-6, and S-7 in standard cubic feet.

Such records shall be retained and made available for inspection by the District for two (2) years following the date the data is recorded. [Basis: Recordkeeping]

6. The owner/operator shall report any noncompliance with these conditions to the Compliance and Enforcement Division at the time that it is first discovered. The owner/operator shall detail the corrective action taken and include the data showing the exceedance as well as the time of occurrence in the submittal. [Basis: Regulation 2-1-403]
7. The owner/operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this condition. All measurements, records and data required to be maintained by the operator shall be retained for at least two (2) years following the date the data is recorded. [Basis: Regulation 1-523]


End of Conditions

Recommendation

The District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state, and federal air quality-related regulations. The preliminary recommendation is to issue an Authority to Construct/Permit to Operate for the equipment listed below. However, the proposed source will be located within 1,000 feet of at least one school, which triggers the public notification requirements of District Regulation 2-1-412. After the comments are received and reviewed, the District will make a final determination on the permit.

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of an Authority to Construct for the following sources:

- S-1 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 1)**
Four (4) PressureTech PT8, Maximum 50 CFM each
200 CFM total
Unabated
- S-2 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 2)**
Four (4) PressureTech PT8, Maximum 50 CFM each
200 CFM total
Unabated
- S-3 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 3)**
Three (3) RadonAway GP301 Pro Series, Maximum 64 CFM each
One (1) PressureTech PT8, Maximum 50 CFM
242 CFM total
Unabated
- S-4 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 4)**
One (1) RadonAway GP301 Pro Series, Maximum 64 CFM
Two (2) PressureTech PT8, Maximum 50 CFM each
One (1) PressureTech PT16, Maximum 67 CFM
231 CFM total
Unabated
- S-5 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Three (3) Blowers (Building 7)**
Two (2) RadonAway GP301 Pro Series, Maximum 64 CFM each
One (1) PressureTech PT8, Maximum 50 CFM
178 CFM total
Unabated
- S-6 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Four (4) Blowers (Building 8)**
One (1) RadonAway GP301 Pro Series, Maximum 64 CFM
One (1) PressureTech PT8, Maximum 50 CFM
Two (2) PressureTech PT16, Maximum 67 CFM each
248 CFM total
Unabated
- S-7 Sub-Slab Depressurization/Vapor Intrusion Mitigation System w/ Two (2) Blowers (Clubhouse)**
Two (2) RadonAway GP301 Pro Series, Maximum 64 CFM each
128 CFM total
Unabated

By: 

Date: 11/10/22

Cameron Fee
Air Quality Engineer I