

PUBLIC NOTICE

Date: December 18, 2024

To: Parents or guardians of children enrolled at Harbor High School, Green Acres Elementary School, VHM Christian School, Live Oak Elementary School & Tierra Pacifica Charter School and addresses within 1,000 feet of 2600 Soquel Avenue, Santa Cruz, CA 95062.

SUBJECT: NOTICE OF INTENT TO ISSUE AN AUTHORITY TO CONSTRUCT PURSUANT TO CALIFORNIA HEALTH & SAFETY CODE §42301.6

<p>Why are you receiving this Notice?</p>	<p>California Health & Safety Code Section 42301.6 requires that prior to approving a permit to construct equipment that emits toxic air emissions and is located within 1,000 feet of a kindergarten through grade 12 school-site, the Monterey Bay Air Resources District (MBARD) shall notify the parents or guardians of children enrolled in a school that is located within one-quarter mile of the proposed new or modified source and to each address within a 1,000 foot radius of the source.</p> <p>This notice is being distributed because MBARD received an application, on behalf of Pottery Planet, from Weber, Hayes and Associates requesting to install and operate an Air Sparge (AS) and Soil Vapor Extraction (SVE) groundwater remediation system at the Pottery Planet gasoline Underground Storage Tank (UST) release site, located at 2600 Soquel Avenue in Santa Cruz. The remediation system is required by the Central Coast Regional Water Quality Control Board and the State Water Resources Control Board to remove the remaining gasoline hydrocarbons in the groundwater. The proposed project is located within one quarter mile of the outer boundary of Harbor High School, Green Acres Elementary School, VHM Christian School, Live Oak Elementary School & Tierra Pacifica Charter School and may result in emissions of benzene, toluene, ethylbenzene, xylenes and methyl tert-butyl ether.</p>
<p>Project Description</p>	<p>To control the release of emissions, Weber, Hayes and Associates, the agent for Pottery Planet is proposing to install and operate remediation equipment consisting of a catalytic oxidizer for the first 6 months of operation and a granular activated carbon treatment system, consisting of four 250-pound activated carbon vapor phase adsorbers for the estimated remaining 12-month duration of the project.</p>
<p>Preliminary Evaluation</p>	<p>MBARD has evaluated the permit application for the proposed project and has made a preliminary determination that the project will comply with all applicable air district, state and federal air quality-related regulations, including the health risks resulting from toxic air contaminant emissions. The preliminary recommendation is to issue an Authority to Construct for this project.</p>
<p>Additional Information</p>	<p>If you are interested in getting more information, you may request copies of MBARD's evaluation report by calling MBARD at (831) 647-9411. This information is also accessible on the MBARD website at: https://www.mbard.org/press-releases-and-notice</p>
<p>Public Comment Period</p>	<p>There is a 30-day period for public response to this proposal. Anyone wishing to comment on the proposed issuance of this permit should submit their comments in writing by January 17, 2025, to the following address:</p> <p>Monterey Bay Air Resources District Attn: Chathura Viswanath 24580 Silver Cloud Court Monterey, CA 93940</p> <p>All comments received during this 30-day period will be reviewed and considered by MBARD staff before a final decision is made on this application. MBARD will include written responses to the comments in the permit file.</p>

AVISO PÚBLICO

Fecha: 18 de diciembre de 2024

Para: Padres o tutores de niños matriculados en Harbor High School, Green Acres Elementary School, VHM Christian School, Live Oak Elementary School y Tierra Pacifica Charter School y direcciones dentro 1,000 pies de 2600 Soquel Avenue, Santa Cruz, CA 95062.

Asunto: **AVISO DE INTENCIÓN DE EMITIR UNA AUTORIDAD PARA CONSTRUIR DE CONFORMIDAD CON EL CÓDIGO DE SALUD Y SEGURIDAD DE CALIFORNIA §42301.6**

<p>¿Por qué ha recibido usted este aviso?</p>	<p>La Sección 42301.6 del Código de Salud y Seguridad de California requiere que antes de aprobar un permiso para construir equipos que emitan emisiones tóxicas al aire y estén ubicados dentro de 1,000 pies de un sitio escolar desde jardín de niños hasta el grado 12, el Distrito de Recursos del Aire de la Bahía de Monterey (MBARD) deberá notificar a los padres o tutores de matriculados en una escuela que esté ubicada dentro de un cuarto de milla de la fuente nueva o modificada propuesta y a cada dirección dentro de un radio de 1,000 pies de la fuente.</p> <p>Este aviso se distribuye porque MBARD recibió una solicitud, en nombre de Pottery Planet, Weber, Hayes and Associates solicitando instalar y operar un sistema de remediación de agua subterránea de un Aspersión de Aire (AS) y Extracción de Vapor del Suelo (SVE) en el Sitio de liberación del subsuelo del Tanque de Almacenamiento (UST) gasolina de Pottery Planet, ubicado en 2600 Soquel Avenue en Santa Cruz. El sistema de remediación es requerido por la Junta Regional de Control de Calidad del Agua de la Costa Central y la Junta Estatal de Control de Recursos Hídricos para eliminar los hidrocarburos de gasolina restantes en el agua subterránea. El proyecto propuesto está ubicado dentro de un cuarto de milla del límite exterior de Harbor High School, Green Acres Elementary School, VHM Christian School, Live Oak Elementary School y Tierra Pacifica Charter School y puede resultar en emisiones de benceno, tolueno, etilbenceno, xilenos y metil terc-butil éter.</p>
<p>Descripción del proyecto</p>	<p>Para controlar la liberación de emisiones, Weber, Hayes and Associates, el agente de Pottery Planet, propone instalar y operar equipos de remediación que consisten en un catalizador oxidante durante los primeros 6 meses de operación y un sistema de tratamiento de carbón activado granular, que consta de cuatro adsorbederos en fase de vapor de carbón activado, cada uno con capacidad de 250 libras, durante los 12 meses restantes estimados del proyecto.</p>
<p>Evaluación preliminar</p>	<p>MBARD ha evaluado la solicitud de permiso para el proyecto propuesto y ha tomado una determinación preliminar de que el proyecto cumplirá con todas las regulaciones aplicables relacionadas con la calidad del aire del distrito, estatales y federales, incluidos los riesgos para la salud resultantes de las emisiones de contaminantes tóxicos del aire. La recomendación preliminar es emitir una Autoridad para Construir para este proyecto.</p>
<p>Información adicional</p>	<p>Si está interesado en obtener más información, puede solicitar copias del informe de evaluación de MBARD llamando a MBARD al (831) 647-9411. Esta información también está disponible en el sitio web de MBARD en: https://www.mbard.org/press-releases-and-notice</p>
<p>Periodo de comentarios públicos</p>	<p>Hay un plazo de 30 días para la respuesta pública a esta propuesta. Cualquier persona que desee comentar sobre la propuesta de emisión de este permiso deberá enviar sus comentarios por escrito antes del 17 de enero de 2025, a la siguiente dirección:</p> <p>Monterey Bay Air Resources District Attn: Chathura Viswanath 24580 Silver Cloud Court Monterey, CA 93940</p> <p>Todos los comentarios recibidos durante este período de 30 días serán revisados y considerados por el personal de MBARD antes de que se tome una decisión final sobre esta solicitud. MBARD incluirá respuestas escritas a los comentarios en el archivo del permiso.</p>

**ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT APPLICATION**

Company: Weber, Hayes and Associates

Mailing Address: 120 Westgate Drive
Watsonville, CA 95076

Contact Person : Robyn Chaconas
Project Engineer
Phone: (831) 247-3080
robyn@weber-hayes.com

Project Location : 2600 Soquel Avenue
Santa Cruz, CA 95062

Authority to Construct: APP-24-00068

Coordinates: Latitude °N: 36.98489 °
Longitude °W: 121.99052 °

SIC NO.: 5629 (Remediation and Other Waste Management Services)
NAISC: 562910 (Remediation Services)
SCC No: 30202601 (Waste Disposal, Treatment and Recovery – Soil & Groundwater Remediation)

Engineer: Chathura Viswanath

Evaluation Date: October 23, 2024

I. PROPOSAL: CONTAMINATED SOIL VAPOR EXTRACTION AND REMEDIATION SYSTEM

Weber, Hayes and Associates (WHA), the agent for Pottery Planet, has applied to install a soil vapor extraction (SVE) system to be located at 2600 Soquel Avenue, Santa Cruz, CA 95062. The SVE system will extract vapors from the vadose zone soil for treatment before discharge to the atmosphere. The equipment is located within 1000 ft. of Harbor High School, Green Acres Elementary School and one quarter mile from the VHM Christian School, Live Oak Elementary School and Tierra Pacifica Charter School therefore the requirements of CA Health and Safety Code, Section 42301.6 will be considered.

Site Background

Based on soil vapor probes, sub-slab vapor probes and soil vapor samples, concentrations of gasoline, benzene, ethylbenzene, toluene, & xylenes were found at the site. It is assumed the detected concentrations of these chemicals are due to a release from an on-site gasoline Underground Storage Tank (UST) that has since been removed.

Weber, Hayes and Associates is proposing to install a soil vapor extraction system to remediate the property of the petroleum hydrocarbons. Pilot tests were conducted, and the Soil Vapor Extraction System Pilot Test and the Remedial Action Plan was submitted to the Monterey Bay Air Resources District (MBARD) by the applicant Weber and Hayes Associates (WHA). The remediation system will initially utilize a catalytic oxidizer with 98% efficiency for an estimated period of six months. After this period, two sets of Granulated Activated Carbon vessels, arranged in parallel, each set equipped with two vessels arranged in series, each of the four vessels with a capacity of 250 pounds of granular activated carbon will be used to remove the contaminants. At any given time, either the Catalytic Oxidizer or the Granulated Activated Carbon Treatment System will be in use. Both systems will not be used simultaneously.

II. APPLICABLE RULES:

Rule 200: Permits Required
Rule 207: Review of New and Modified Stationary Sources
Rule 218: Title V Operating Permits
Rule 221: Federal Prevention of Significant Deterioration
Rule 222: Federal Minor New Source Review
Rule 300: District Fees
Rule 400: Visible Emissions
Rule 402: Nuisance
Rule 403: Particulate Matter
Rule 404: Sulfur Compounds & Nitrogen Oxides
Rule 412: Sulfur Content of Fuels
Rule 413: Removal of Sulfur Compounds
Rule 436: Title V: General Prohibitory Rule
Rule 1000: Toxic Air Contaminants
CA Health & Safety Code, Section 42301.6 – Public Notice

III. PROCESS DESCRIPTION:

CONTAMINATED SOIL VAPOR EXTRACTION AND REMEDIATION SYSTEM:

1. Soil Vapor Extraction Wells Extracting Vapors Via A Roots URAI 56 Positive Displacement Rotary Lobe SVE Blower, And One 5-Hp Vacuum Blower, Rated At 150 SCFM, Discharging Vapors To A Catalytic Oxidizer Or An Activated Carbon Treatment System.
2. RF2G Electric Catalytic Oxidizer Treatment System, Model TRF2G-ECM, Discharging To Atmosphere Through A 6 Inch Diameter Stack, 16 Feet High At A Maximum Rate Of 150 SCFM.
3. Activated Carbon Treatment System, Consisting Of Two Sets Of Carbon Adsorbers, Arranged In Parallel. Each Set Equipped With Two Vessels Arranged In Series, Each Of The Four Vessels With A Capacity Of 250 Pounds Of Granular Activated Carbon, Discharging To Atmosphere Through A 6 Inch Diameter Stack, 16 Feet High, At A Maximum Rate Of 150 SCFM.

IV. EMISSIONS CALCULATIONS:

The results of the vapor sampling investigation are shown in Table 1. The reported concentrations are units of microgram per cubic meter ($\mu\text{g}/\text{m}^3$).

Table 1. Molecular Weight & Method Detection Limits (MDL) of Volatile Organic Compounds (VOCs)

Analyte	Molecular Weight (lb/lb-mol)
Benzene	78.11
Toluene	92.14
Ethylbenzene	106.17
Xylenes	106.16
p- & m-xylenes	106.16
TPH - Gasoline	100

The emissions from the proposed equipment will be estimated using the maximum concentration for each of the compounds in Table 1.

Table 2 shows the estimated highest emissions from the Catalytic Oxidizer Treatment System with a flow rate of 150 ft³/min, based on the Average concentration detected.

Table 2. Estimated VOC and Toxic Emissions: Catalytic Oxidizer Treatment System.

Analyte	Highest Concentration or ND values ¹ (µg/m ³)	PPM ²	Flow (ft ³ /min)	Uncontrolled Hourly emissions ³ (lb/hr)	Uncontrolled Daily Emissions ⁴ (lb/day)	Controlled Daily emissions ⁵ (lb/day)	Annual emissions ⁶ (lb/yr)
Benzene	72,750	22.77	150	4.1E-02	9.80E-01	1.96E-02	7.16
Toluene	28050	6.46	150	1.6E-02	3.78E-01	7.56E-03	2.76
Ethylbenzene	39050	10.36	150	2.2E-02	5.26E-01	1.05E-02	3.84
Xylenes	29675	6.83	150	1.7E-02	4.00E-01	8.00E-03	2.92
TPH - Gasoline	12,500,000	3056.25	150	7.0E+00	1.68E+02	3.37	1229.51
VOC totals:				7.11E+00	1.71E+02	3.41E+00	1.25E+03

NOTES:

1. Values reported by WHA for May 4, 2023, sampling, using EPA Test Method TO-15.
2. PPM as calculated in attached spreadsheet = concentration (µg/m³) * (24.4 liter/mole) ÷ Molecular Weight (g/g-mole) * 0.001 m³/liter
3. Hourly emissions (lb/hr) = concentration (µg/m³) * flow rate (ft³/min) * m³/35.31 ft³ * 60 min/hr * g/10⁶ µg * lb/454 g.
4. Uncontrolled daily emissions (lb/day) = Hourly emissions (lb/hr) * 24 hours/day
5. Catalytic oxidizer is assumed to have an efficiency of 98% based on the Soil Vapor Extraction System Pilot Test and the Remedial Action Plan submitted by applicant. The catalytic oxidizer is anticipated to be in use for a period of six months, after which a Granulated Activated Carbon System will be used. Both systems will not be used together at the same time.
6. Based on 8760 hours per year.

The calculations for the granular activated carbon system are shown below in Table 3.

Table 3. Estimated VOC and Toxic Emissions: Granulated Activated Carbon System

Analyte	Highest Concentration or ND values ¹ (µg/m ³)	PPM ²	Flow (ft ³ /min)	Uncontrolled Hourly emissions ³ (lb/hr)	Uncontrolled Daily Emissions ⁴ (lb/day)	Controlled Daily emissions ⁵ (lb/day)	Annual emissions ⁶ (lb/yr)
Benzene ³	72,750	22.77	150	4.1E-02	9.80E-01	9.80E-03	3.58
Toluene ³	28050	6.46	150	1.6E-02	3.78E-01	3.78E-03	1.38
Ethylbenzene ³	39050	10.36	150	2.2E-02	5.26E-01	5.26E-03	1.92

Xylenes ³	29675	6.83	150	1.7E-02	4.00E-01	4.00E-03	1.46
TPH - Gasoline	12,500,000	3056.25	150	7.0E+00	1.68E+02	2.52E+00	922.14
VOC totals:				7.11E+00	1.71E+02	2.549	930.47

NOTES

1. Values obtained from the TO-15 report provided by WHA.
2. PPM as calculated in attached spreadsheet = concentration (µg/m³) * (24.4 liter/mole) ÷ Molecular Weight (g/g-mole)* 0.001 m³/liter
3. Hourly emissions (lb/hr) = concentration (µg/m³) *flow rate (ft³/min) * m³/35.31 ft³ * 60 min/hr * g/10⁶ µg * lb/454 g
4. Benzene, toluene, ethylbenzene, and xylene are compounds found in TPH. Hence these chemical compounds are excluded from the total VOC emissions to ensure emissions are not counted twice.
5. A vapor recovery system is expected to have a **minimum** capture and destruction efficiency of 98.5% for VOC concentration greater than 2,000 ppm, 97% for VOC below 2,000 and greater than 200 ppm, and 90% for inlet VOC concentration below 200 ppm. **As shown in Table 3, the TPH gasoline concentration is above 2000 ppm, and a minimum efficiency of 98.5% is expected from the system. Since the proposed system has two 250 lb carbon canisters in series, the applicant has guaranteed 99% efficiency through the system.**
6. Annual emissions (lb/yr) = Controlled daily emissions (lb/day) * 365 days/yr.

VI. RULE COMPLIANCE:

The following District rules apply to the operation as specified:

District Rule 200 – Permits Required

The purpose of this Rule is to identify when District permits are issued. The provisions of this Rule shall apply to any person who builds, erects, alters, or replaces any article, machine, equipment, or other contrivance that may cause the issuance of air contaminants or the use of which may eliminate reduce, or control the issuance of air contaminants.

Under Section 3.1, no person shall build, erect, alter, or replace any article, machine, equipment, or other contrivance that may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants unless the facility owner or operator has obtained a separate written Authority to Construct for each permit unit from the Air Pollution Control Officer. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted or denied or the application is canceled.

District Rule 207 – Review of New and Modified Sources (as adopted on 4/20/2011)

This Rule provides for the review of new and modified stationary air pollution sources to meet requirements for the review of new and modified stationary sources (NSR) and for the Prevention of Significant Deterioration (PSD), under the provisions of the federal Clean Air Act; and requirements for NSR under the provisions of the California Clean Air Act. This Rule intends to ensure that the most stringent requirements of these programs shall be applied.

This Rule shall apply to all new stationary sources and all modifications to existing stationary sources that, after construction or modification, emit or have the potential to emit any affected pollutants. Thus, the proposed project is subject to the requirements of Rule 207.

Federal Best Available Control Technology (BACT) Analysis

Under Section 4.1.1, an applicant shall apply BACT to a new stationary source or modification of an existing source, which has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1 or a modification of an existing stationary source which has the potential to result in a new emissions increase, as defined in Section 2.37, occurring after October 20, 2010, for PM_{2.5} or after August 19, 1983, for PM₁₀ or after July 15, 1976, for any other affected pollutant.

Table 4 shows the emissions from the proposed project, the facility-wide new emissions, and the Federal BACT thresholds of Table 4.1.1.

Table 4. Federal New Emission Increases – BACT Determination

Permit No. Equipment description (Installation)	NO _x (lb/day)	VOC (lb/day)	CO (lb/day)	SO _x (lb/day)	PM (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)
APP-24-00068 Soil Remediation System ¹ (2024)	0.00	3.37	0.00	0.00	0.00	0.00	0.00
Total	0.00	3.37 ¹	0.00	0.00	0.00	0.00	0.00
Federal Threshold	150	150	550	150	150	82	54.79

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for the final calculation.

Table 4 shows that the new emissions, as defined in Section 2.37, do not exceed the BACT thresholds of Section 4.1.1. However, the catalytic oxidizer and the activated carbon system meet BACT requirements for a soil vapor extraction system.

California BACT analysis

Under Section 5.2, BACT shall be required for any new or modified permit unit with the potential to emit 25 pounds per day or more of VOCs or NO_x.

Table 5. California BACT Determination.

Pollutant Equipment description	BACT Threshold (lb/day)	Project Emissions (lb/day)	BACT Applicability
NO _x Soil Remediation System	25	0.0	BACT not triggered
VOC Soil Remediation System	25	3.37	BACT not triggered

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for final calculation.

Table 5 shows that the “Permit Unit” does not exceed the BACT thresholds of Section 5.2. However, the catalytic oxidizer and the activated carbon system meet BACT requirements for a soil vapor extraction system.

Federal Offset Analysis

Under Section 4.2, Offsets are required for any new or modified source, which has net emissions increases equal to exceeding thresholds specified in Rule 207, Table 4.2.2. **Weber, Hayes and Associates submitted the first application for this facility on July 18, 2024.** As defined by Section 2.38, this is a new facility from a federal standpoint, with commencement after July 15, 1976. Accordingly, the project emissions must be counted in the net and new emission increase calculations.

Table 6 shows the emissions from the new project, the net emissions increase for the facility, and the Federal offset thresholds.

Table 6. Federal Net Emissions Increase – Offset Determination

Permit No. Equipment description (Installation)	NO _x (lb/day)	VOC (lb/day)	CO (lb/day)	SO _x (lb/day)	PM (lb/day)	PM ₁₀ (lb/day)
APP-24-00068 Soil Remediation System (2024)	0.00	3.37	0.00	0.00	0.00	0.00
Total	0.00	3.37 ¹	0.00	0.00	0.00	0.00
Federal Threshold	150	150	550	150	150	82

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for final calculation.

Table 6 shows that the proposed project does not exceed the Federal Offset thresholds of Section 4.2.2.

California Offset Analysis

Under Section 5.3, any new or modified stationary source with the potential to emit 137 pounds per day or more of VOCs or NO_x shall be required to provide offsets at the ratios specified in Section 4.3. Under Section 2.38, for Part 5 of this Rule, the new source applicability date shall be April 21, 1993. **The first application for this facility was applied on July 18, 2024. As defined by Section 2.38, this is a new facility from a State standpoint, with commencement after April 21, 1993.**

Table 6 shows the potential to emit emissions from the new project and for the facility.

Table 7. Facility-Wide Potential to Emit Offset Determination – California

Permit No. Equipment Description (Installation Date)	NO _x (lb/day)	VOC (lb/day)
APP-24-00068 Soil Remediation System (2024)	0.00	3.37
Total	0.0	3.37 ¹
California Threshold	137	137

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for the final calculation.

As shown in Table 7, the proposed project does not exceed the California offset thresholds of Section 5.3.

District Rule 207 – Review of New of Modified Sources (as adopted on 2/15/2017)

Note that the District has not received approval for the 2/15/2017 version of Rule 207 and the District is implementing Rule 207 as adopted on 4/20/2011. For informational purposes only, the Rule applicability of Rule 207 as adopted on 2/15/2017 is as follows:

The purpose of this Rule is to provide for the review of new and modified stationary air pollution sources to meet the New Source Review requirements under the provisions of the California Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of California ambient air quality standards. Each project subject to New Source Review shall undergo a review under the federal requirements contained within Rule 220 and Rule 221, and a parallel review under the requirements of this Rule and the most stringent applicable provisions shall apply.

Rule 207 applies to all new stationary sources and all modifications to existing stationary sources, which after construction or modification, emit or have the potential to emit any affected pollutants. This project is subject to the requirements of this Rule.

Best Available Control Technology (BACT) requirements

Under Section 4.1.1, BACT shall be required for any new or modified permit unit with the potential to emit 25 pounds per day or more of VOCs or NO_x.

Under Section 4.1.2, BACT shall be required for a new or modified stationary source that has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1.

Table 8 shows the emissions from the new project, the facility-wide emissions, and the BACT thresholds of Section 4.1.2, Table 4.1.1. Table 8 shows the emissions from the permit unit and the BACT thresholds of Section 4.1.1.

Table 8. Facility-Wide BACT Determination

Permit No. (Installation)	NO _x (lb/day)	VOC (lb/day)	CO (lb/day)	SO _x (lb/day)	PM (lb/day)	PM ₁₀ (lb/day)	PM _{2.5} (lb/day)
APP-24-00068 Catalytic Oxidizer System (2024)	0.00	3.37	0.00	0.00	0.00	0.00	0.00
Total	0.00	3.37	0.00	0.00	0.00	0.00	0.00
Threshold	150	150	550	150	150	82	54.79

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for final calculation.

As shown in Table 8, the equipment does not exceed the Facility-Wide BACT threshold. However, the activated carbon system and the catalytic oxidizer meet BACT requirements for a soil vapor extraction system.

Table 9. Permit Unit BACT Determination

Permit No. (Installation)	Pollutant	BACT Threshold (lb/day)	Project Emissions (lb/day)	BACT Applicability
APP-24-00068 Soil Remediation System (2024)	NO _x	25	0.00	BACT not triggered
APP-24-00068 Soil Remediation System (2024)	VOC	25	3.37 ¹	BACT not triggered

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for final calculation.

As shown in Table 9, the equipment does not exceed the Permit Unit BACT trigger levels. However, the catalytic oxidizer and the activated carbon system meet BACT requirements for a soil vapor extraction system.

Stationary Source Offsets

Under Section 4.2, Offsets are required for any new or modified source, which has the potential to emit greater than or equal to the thresholds of any affected pollutant listed in Table 4.2.1.

Table 10. Facility-Wide Offset Determination

Permit No. Equipment Description	NO _x (lb/day)	VOC (lb/day)	CO (lb/day)	SO _x (lb/day)	PM (lb/day)	PM ₁₀ (lb/day)
APP-24-00068 ¹ Soil Remediation System	0.00	3.37 ¹	0.00	0.00	0.00	0.00
Total	0.00	3.37	0.00	0.00	0.00	0.00
Threshold	137	137	550	150	150	82

1. Since the catalytic oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for final calculation.

Table 9 shows that the proposed project does not exceed the Offset thresholds. As pointed out, the Rule as amended on 2/15/2017 has not been approved and the version as adopted on 4/20/2011 will be implemented.

Rule 207 Parallel Stringency Review

After reviewing the two different versions of Rule 207, the project complies with all the requirements of the Rule as adopted on 4/20/2011 and amended on 2/15/2017.

District Rule 218 – Title V: Federal Operating Permits

This is the implementation regulation by which the District issues federal Operating Permits. The facility's PTE emissions are below 100 tons per year of any air pollutant, 10 tons per year of a single HAP, and 25 tons per year of any combination, therefore, Title V is not applicable.

District Rule 221 – Federal Prevention of Significant Deterioration

The federal Prevention of Significant Deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant. This Rule provides for the review of new and modified major stationary sources to meet requirements for PSD, under the provisions of the federal Clean Air Act. The purpose of this Rule is to incorporate the federal PSD rule requirements into the District's Rules and Regulations by incorporating the federal requirements by reference.

This Rule shall apply to any source and owner or operator of any source subject to any requirements under Title 40 Code of Federal Regulations, Part 52, Section 21 (40 CFR 52.21), as incorporated into this Rule.

The proposed project does not meet the definition of a new major stationary source or a major modification to an existing stationary source. Since the Prevention of Significant Deterioration (PSD) program only applies to new major stationary sources or major modifications to stationary sources, this project is not subject to District Rule 221.

District Rule 222 – Minor New Source Review

This Rule provides for the review of new and modified stationary air pollution sources to meet the requirements for the review of such sources, under the new source review (NSR) provisions of the federal Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of ambient air quality standards.

This Rule shall apply to any new or modified stationary source that emits an air pollutant (or its precursors) subject to any National Ambient Air Quality Standard (NAAQS). Compliance with the New Source Review (NSR) provisions of the California Clean Air Act, as defined in District Rule 207, ensures compliance with District Rule 222, Federal Minor NSR.

District Rule 300 – District Fees

This Rule provides the mechanisms for assessing fees for the issuance and renewal of Permits to Operate, Authorities to Construct, and other actions in MBARD's permit system; and to recover MBARD costs for requested services, materials, or equipment. The fees prescribed within this Rule do not exceed the cost of issuing, maintaining, and performing inspection activities for all permits.

This Rule shall apply to all owners and operators of stationary sources which are required by MBARD Rule 200 *Permits Required* to obtain an Authority to Construct or Permit to Operate; and to requesters of MBARD services, materials, or equipment. According to the MBARD Fee Determination Protocol, affirmed by the Board on 6/16/2004, and revised on 8/26/2019, the fees for soil or water clean-up with VOC emissions less than 25 lb/day the billable emissions are expected to be 0.1 – 1.0 ton/year, which corresponds to fee code 502.

District Rule 400 – Visible Emissions:

The purpose of this Rule is to provide limits for the visible emissions from sources within the District. The provisions of this Rule shall apply to all sources of air pollutant emissions in the District.

According to District Rule 400 Section 3.1, no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1, or equivalent 20% opacity. This requirement will be included as a permit condition.

District Rule 402 – Nuisance:

The purpose of this Rule is to provide an explicit prohibition against sources creating public nuisances while operating within the District. The provisions of this Rule shall apply to all sources of air pollutant emissions within the Air District.

According to District Rule 402, Part 3, no person shall discharge from any source whatsoever such quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property. This requirement will be included as a permit condition.

District Rule 436 – Title V: General Prohibitory Rule

The purpose of this Rule is to provide the federally enforceable potential to emit limitations limiting emissions below the thresholds requiring federal Title V operating permits under Rule 218.

General Applicability: This Rule shall apply to any stationary source which would if it did not comply with the limitations outlined in this Rule, have the potential to emit air contaminants equal to or more than the threshold for a major source of regulated air pollutants or a major source of hazardous air pollutants (HAPs) and which meets one of the following conditions:

- Rule 436, Section 1.2.1: In every 12 months, the actual emissions of the stationary source are less than or equal to the emission limitations specified in Section 3.1 (shown below); or
 - 50 percent of the major source thresholds for regulated air pollutants (excluding HAPs), or
 - 5 tons per year of a single HAP, or
 - 12.5 tons per year of any combination of HAPs, or
 - 50 percent of any lesser threshold for a single HAP as the U.S. EPA may establish by rule.
- Rule 436, Section 1.2.2: In every 12 months, at least 90 percent of the emissions from the stationary source are associated with an operation limited by any one of the alternative operational limits specified in Section 6.1.

Table 11. Facility Potential to Emit (PTE) (tons/yr)

Permit No. (Installation)	NO _x (ton/yr)	VOC (ton/yr)	CO (ton/yr)	SO _x (ton/yr)	PM (ton/yr)	PM ₁₀ (ton/yr)	PM _{2.5} (ton/yr)
APP-24-00068 Soil Remediation System (2024)	0.00	0.64	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.64 ¹	0.00	0.00	0.00	0.00	0.00

1. Since the catalytic Oxidizer system has greater emissions, it will be considered as the worst-case scenario and will be taken into consideration for the final calculation.

Table 11 shows that the annual potential emissions are below the applicability thresholds.

Rule 436 Section 1.3.2.1 allows an exemption from Title V Recordkeeping Requirements of Part 4 if actual emissions, based on annual renewal information sheets, will not exceed in every 12 months the following quantities:

- 5 tons per year for regulated (criteria) pollutants.
- 2 tons per year of any single HAP,
- 5 tons per year of any combination of HAPs per year, and
- 20% of any lesser threshold for a single HAP that the EPA may establish by rule.

Table 11 shows that the proposed application does not have the potential to exceed 5 tons per year of emissions. Hence, the general recordkeeping requirement will be sufficient to meet the recordkeeping requirements of Rule 436.

A facility is entitled to the exemption from Reporting Requirements of Rule 436 Part 5, under Section 5.2. if actual emissions, based on annual renewal information sheets, will not exceed in every 12 months the following quantities:

- 25 tons per year for regulated (criteria) pollutants for which the District has federal area designation of attainment, unclassified, transitional, or moderate nonattainment.
- 15 tons per year for regulated (criteria) pollutants for which the District has federal area designation of serious nonattainment.
- 6.25 tons per year for regulated (criteria) pollutants for which the District has federal area designation of severe nonattainment.
- 2.5 tons of single Hazardous Air Pollutant (HAP) per year
- 6.25 tons per year of any combination of HAPs per year, or
- 25% of any lesser threshold for a single HAP as the EPA may establish.

As shown in Table 11, the facility's potential annual emissions do not exceed the reporting applicability thresholds. Hence, the facility is exempt from the Reporting Requirements of Rule 436 Part 5.

Rule 1000 – Toxic Air Contaminants:

This Rule applies to any new or modified stationary sources for which an Authority to Construct or a Permit to Operate is required under District Regulation II - Permits, and which has the potential to emit any into the atmosphere of any TAC. Whenever a potential TAC may be subject to more than one District Rule, or more than one requirement in this rule, the requirement resulting in the least hazard to the public, as determined by the Air Pollution Control Officer, shall apply.

District Rule 1000 Part 3 requires new or modified sources of toxic air contaminants (TAC) and carcinogenic toxic air contaminants (CATC) to meet the following:

- 3.1.1 The acute hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location.
- 3.1.2 The chronic hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location.
- 3.1.3 The cancer risk due to TAC emissions from the new or modified permit unit shall not exceed

10 in one million at any receptor location.

Since the proposed soil vapor extraction (SVE) system has the potential to emit a TAC, a health risk assessment (HRA) was performed. The analysis was conducted by the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines). The HRA analysis utilizes the Hot Spots Analysis Reporting Program (HARP2) based on air dispersion modeling (AERMOD) output from U.S. EPA’s AERMOD software. The results obtained from HARP2 provide the necessary information to identify the maximum exposed individual resident (MEIR) for both non-cancer and carcinogenic health impacts.

The estimated TAC emissions are included as an attached to this evaluation.

Table 12. AERMOD Source Type Inputs for Catalytic Oxidizer

Source ID ¹	1
Source Type ²	Point
UTM X-Coordinate	589839
UTM Y-Coordinate	4093672
Base Elevation (ft) ³	44.36
Release Height (ft)	16
Emission Rate (g/s) ⁴	1
Gas Exit Temperature (F)	300
Stack Inside Diameter (in)	6
Gas Exit Velocity (m/s)	3.88
Gas Exit Flow Rate (cfm)	150

1. Source ID “1” is used because AERMOD results will be loaded into CARB’s ADMRT tool where source ID will be identified as 1.
2. The SVE system has a vertical exhaust stack configuration. Hence, a point source was selected.
3. Base elevation was uploaded automatically when running the AERMAP function on AERMOD.
4. The emission rate is set to 1 gram per second (g/s) because CARB’s Air Dispersion Modeling Risk Tool (ADMRT) requires the unit to be in g/s.

The AERMOD max 1-hr concentration and annual concentration plot files for the use of the catalytic oxidizer system were loaded into CARB’s ADMRT tool to determine health impacts on nearby exposed residents. Table 13 shows the HRA values of the proposed project for the residential exposure and meets the requirements of Section 3.1.1 through Section 3.1.3 of Rule 1000. Thus, the proposed project complies with Rule 1000 requirements. The AERMOD and ADMRT results are included in the permit folder.

Table 13. Residential Health Risk Assessment Results for use of Catalytic Oxidizer System

Risk	Receptor ID	Value	Compliance
Acute Max HI	882	3.5379e-02	Yes
Chronic Max HI	882	2.5779e-02	Yes
Cancer Risk	882	6.2865e-06	Yes

Because it is expected that vapor extraction concentrations may vary, to ensure continued compliance with MBARD’s Rule 1000 requirement that no operation exceeds an excess cancer risk of 10 in a million, permit emission limits will be established for this operation. The excess cancer risk of 6.28 in a million and does not exceed the Rule 1000 threshold.

Figure 1. HARP2 Carcinogenic Risks for use of Catalytic Oxidizer System

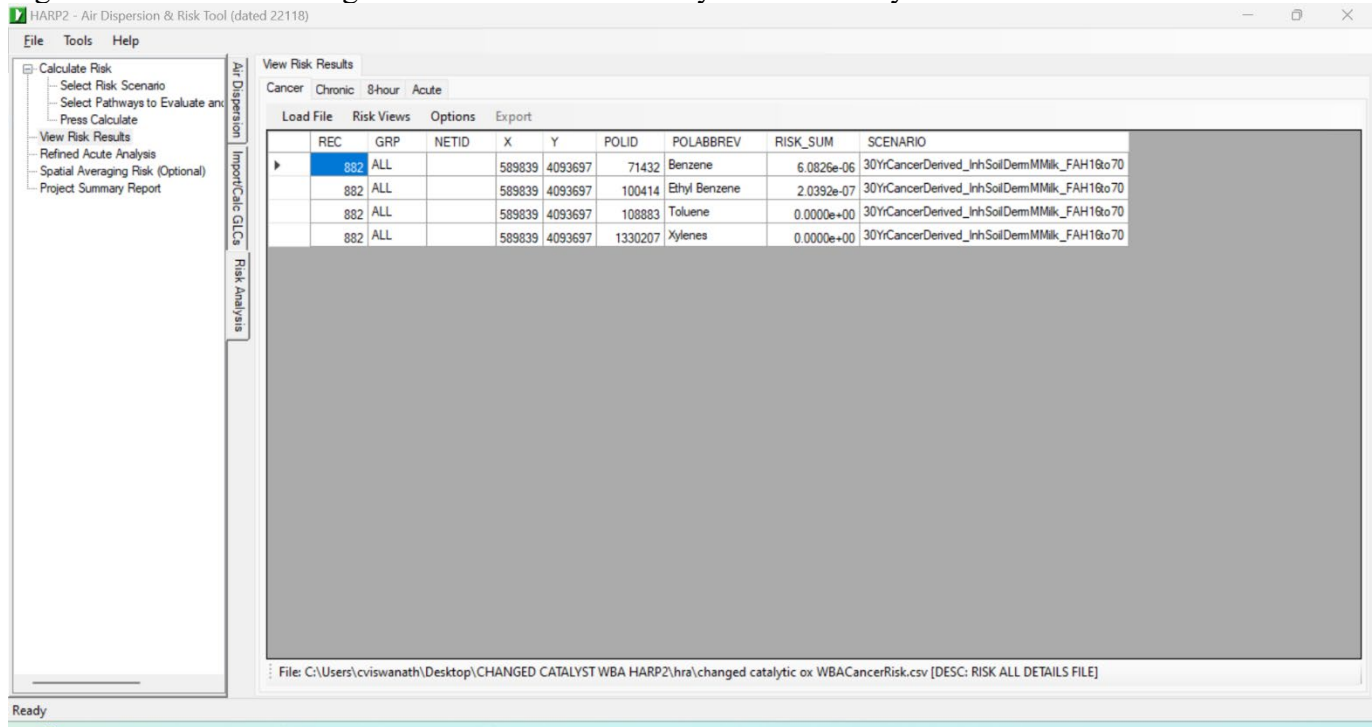


Table 14. AERMOD Source Type Inputs for Granular Activated Carbon System

Source ID ¹	1
Source Type ²	Point
UTM X-Coordinate	589839
UTM Y-Coordinate	4093672
Base Elevation (ft) ³	44.36
Release Height (ft)	16
Emission Rate (g/s) ⁴	1
Gas Exit Temperature (F)	120
Stack Inside Diameter (in)	6
Gas Exit Velocity (m/s)	3.88
Gas Exit Flow Rate (cfm)	150

1. Source ID “1” is used because AERMOD results will be loaded into CARB’s ADMRT tool where source ID will be identified as 1.
2. The SVE system has a vertical exhaust stack configuration. Hence, a point source was selected.
3. Base elevation was uploaded automatically when running the AERMAP function on AERMOD.
4. The emission rate is set to 1 gram per second (g/s) because CARB’s Air Dispersion Modeling Risk Tool (ADMRT) requires the unit to be in g/s.

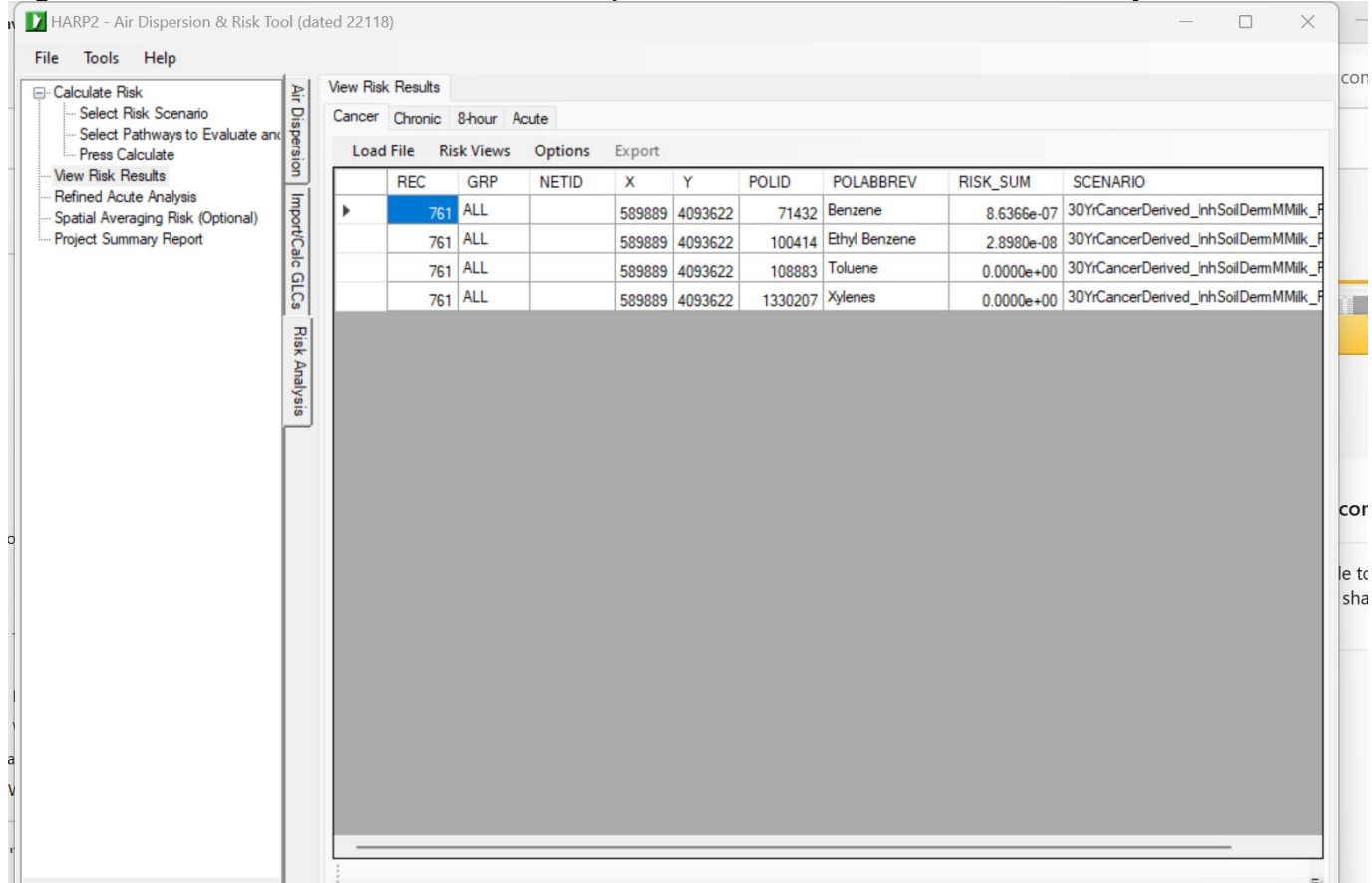
The AERMOD max 1-hr concentration and annual concentration plot files for the use of the Granular Activated Carbon system were loaded into CARB’s ADMRT tool to determine health impacts on nearby exposed residents. Table 15 shows the HRA values of the proposed project for the residential exposure and meets the requirements of Section 3.1.1 through Section 3.1.3 of Rule 1000. Thus, the proposed project complies with Rule 1000 requirements. The AERMOD and ADMRT results are included in the permit folder.

Table 15. Residential Health Risk Assessment Results for use of Granular Activated Carbon system.

Risk	Receptor ID	Value	Compliance
Acute Max HI	760	4.8901e-03	Yes
Chronic Max HI	761	3.6602e-03	Yes
Cancer Risk	761	8.9264e-07	Yes

The cancer risk is 0.89 in a million and does not exceed the Rule 1000 threshold. Permit emission limits will be established for this operation.

Figure 2 – Breakdown of Cancer risks for the operation of Granular Activated Carbon System



Health & Safety Code (H&SC) Section 42301.6 – Public Notification Requirements:

Pursuant to Section §42301.6(a), prior to approving an application for a permit to construct or modify a source that emits hazardous air emissions, and that source is located within 1,000 feet from the outer boundary of a school site, the air pollution control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described. **The proposed contaminated soil vapor extraction and remediation system subject to this evaluation is located within 1,000 feet of the outer boundary of the Harbor High School, Green Acres Elementary School and one quarter mile from VHM Christian School, Live Oak Elementary School and Tierra Pacifica Charter School; therefore, the project is subject to the public notification requirements.**

Per Public Notification Requirements of the Health & Safety Code 42301.6, adopted by the Board On 11-14-01, the District will not implement the Public Notification Requirements of H&SC 42301.6 for any project if:

- Carcinogenic Risk is less than 1 in a million.
- Non-Carcinogenic risks are less than the applicable Reference Exposure Levels (RELs).

As shown in Tables 13 and 15, the acute and chronic risks did not exceed ant of the RELs. However, the excess cancer risk has the potential to exceed 1 in a million during the operation of the Catalytic Oxidizer System. **Therefore, public notification is required for this project.**

Maximum hourly emission limits for benzene and ethylbenzene, the highest risk contributors with **detected** measurement limits were back calculated to ensure the operation will not create an excess cancer risk of 10 in a million. Based on the results from Figure 1 and Table 12, the allowable permit limit for benzene and ethylbenzene were calculated for the operation of the Catalytic Oxidizer.

Table 16. Allowable Permit Limits Developed For Benzene and Ethylbenzene For The Operation Of Catalytic Oxidizer Treatment System.

Pollutant	Emission Rate (lb/day) ¹	Emission Rate (lb/hr) ¹	Cancer Risk ²	Adjusted Cancer Risk ³	Adjusted Emission Rate (lb/day) ⁴	Adjusted Emission Rate (lb/hr) ⁵
Benzene	1.96E-02	8.17E-04	6.08E-06	9.68E-06	3.12E-02	1.30E-03
Ethylbenzene	7.56E-03	3.15E-04	2.04E-07	3.24E-07	1.20E-02	5.01E-04
Total Cancer Risk			6.29E-06	1.00E-05		

1. Emission rate reference from Table 2 of this evaluation.
2. Cancer Risk per pollutant obtained from HARP2, as summarized in Figure 1.
3. Adjusted Cancer Risk = Pollutant Specific Cancer Risk / (Benzene + Ethylbenzene Cancer Risk) * 10.0E-06 (MBARD Rule 1000 Cancer Risk Threshold).
4. Adjusted Emission Rate (lb/day) = Emission Rate (lb/day) / Cancer Risk * Adjusted Cancer Risk.
5. Adjusted Emission Rate (lb/hr) = Emission Rate (lb/hr) / Cancer Risk * Adjusted Cancer Risk.

As shown in Table 16, the benzene emissions shall not exceed 1.30E-03 pounds per hour, the ethylbenzene emissions shall not exceed 5.01E-04 pounds per hour during the operation of the catalytic oxidizer, unless modeling demonstrates an annual average downwind concentration no greater than 751.65 µg/m³. These allowable limits will be listed as a permit condition.

Table 17. Allowable Permit Limits Developed For Benzene And Ethylbenzene For The Operation Of Granular Activated Carbon System

Pollutant	Emission Rate (lb/day) ¹	Emission Rate (lb/hr) ¹	Cancer Risk ²	Adjusted Cancer Risk ³	Adjusted Emission Rate (lb/day) ⁴	Adjusted Emission Rate (lb/hr) ⁵
Benzene	9.80E-03	4.08E-04	8.64E-07	9.68E-06	1.10E-01	4.58E-03
Ethylbenzene	3.78E-03	1.57E-04	2.90E-08	3.25E-07	4.23E-02	1.76E-03

Total Cancer Risk	8.93E-07	1.00E-05
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1. Emission rate reference from Table 2 of this evaluation.
2. Cancer Risk per pollutant obtained from HARP2, as summarized in Figure 2.
3. Adjusted Cancer Risk = Pollutant Specific Cancer Risk / (Benzene + Ethylbenzene Cancer Risk) * 10.0E-06 (MBARD Rule 1000 Cancer Risk Threshold).
4. Adjusted Emission Rate (lb/day) = Emission Rate (lb/day) / Cancer Risk * Adjusted Cancer Risk.
5. Adjusted Emission Rate (lb/hr) = Emission Rate (lb/hr) / Cancer Risk * Adjusted Cancer Risk.

As shown in Table 17, the benzene emissions shall not exceed 4.58E-03 pounds per hour, the ethylbenzene emissions shall not exceed 1.76E-03 pounds per hour during the operation of the Granular Activated Carbon System, unless modeling demonstrates an annual average downwind concentration no greater than 213.37 $\mu\text{g}/\text{m}^3$. These allowable limits will be listed as a permit condition.

VII. CONCLUSIONS:

The equipment can comply with all applicable District rules and regulations.

VIII. RECOMMENDATIONS:

Issue Authority to Construct with the following conditions:

Conditions:

1. No later than twenty-four (24) hours prior to the start-up of the equipment, Weber, Hayes and Associates shall notify the Monterey Bay Air Resources District (MBARD) and arrange for an inspection of the equipment during normal operations to verify compliance with MBARD rules and regulations. [Basis: MBARD Rule 207]
2. Annual Volatile Organic Compounds (VOCs) and benzene emissions and process throughput must be reported to MBARD, upon request. [Basis: MBARD Rule 207]
3. The owner/operator shall operate the vapor-phase recovery system such that the volatile organic compound (VOC) abatement efficiency shall be maintained at a minimum of 98.5% by weight for inlet VOC concentrations greater than or equal to 2,000 ppm (measured as hexane). For inlet concentrations below 2,000 ppmv and greater than or equal to 200 ppmv, a minimum abatement efficiency of 97% shall be maintained. For inlet concentrations below 200 ppmv, a minimum abatement efficiency of 90% shall be maintained. [Basis: MBARD Rules 207 & 1000]
4. Benzene emissions shall not exceed 1.30E-03 pounds per hour during the operation of the Catalytic Oxidizer Treatment System, unless dispersion modeling demonstrates risk levels below the threshold levels outlined in MBARD Rule 1000. [Basis: MBARD Rule 1000].
5. Benzene emissions shall not exceed 4.58E-03 pounds per hour during the operation of the Granular Activated Carbon Treatment System, unless dispersion modeling demonstrates risk levels below the threshold levels outlined in MBARD Rule 1000. [Basis: MBARD Rule 1000]

6. To determine compliance with Conditions 3, 4 and 5, the owner/operator shall conduct the following analyses within 30 days of start-up and once per quarter following startup:
 - a) Analyze the influent gas stream to determine the concentration of VOCs and toxic compounds.
 - b) Analyze the effluent gas stream to determine the concentration of VOCs and toxic compounds.
 - c) Measure the total flow rate (ft³/min) and temperature (°F) through the control system.
 - d) Calculate the outlet emission rates of VOCs and benzene in pounds per hour
 - e) Calculate the VOC abatement efficiency based on the influent and effluent gas analysis, as measured using a photoionization detector (PID). For the purpose of determining compliance with Condition 3, the VOC concentration shall be reported as hexane.
 - f) Collected bag samples of the influent and effluent gases shall be analyzed according to EPA method TO-15, or an equivalent method approved by MBARD.

The start-up test report shall be submitted electronically to MBARD at reports@mbard.org within 30 days of testing. Records shall be retained and made available for inspection by MBARD for three years following the date on which data is recorded.

7. A temperature measurement and recording device with an accuracy of plus or minus 20 degrees Fahrenheit shall be installed and maintained at the inlet of the first stage catalytic bed. [Basis: District Rules 207 & 1000]
8. Whenever the catalytic oxidizer is in operation, the temperature at the inlet of the first stage of the catalytic bed shall not be less than 600 degrees Fahrenheit.
9. The activated carbon vessels shall be replaced at a frequency determined by PID measurements and/or quarterly analytical sampling, such that the risk levels defined in MBARD Rule 1000 are not exceeded. [Basis: MBARD Rules 207 & 1000]
10. No later than February 15 of every calendar year, Weber, Hayes and Associates shall provide MBARD with a year-end summary report of the following, and submit the reports electronically to MBARD at reports@mbard.org [Basis: MBARD Rules 207 and 1000]
 - a) The total throughput of contaminated soil vapor for the previous four quarters (indicated in cubic feet).
 - b) The total petroleum hydrocarbon and benzene mass emission rates for the previous four quarters (indicated in pounds per hour).
 - c) The total petroleum hydrocarbon and benzene mass emission rates for the previous four quarters (indicated in pounds per quarter).
 - d) Temperature (°F) and total flow rate (ft³/min) of exhaust gases for the previous four quarters.
 - e) Volatile organic compound (VOC) abatement efficiency for the previous four quarters.
11. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker than Ringelmann 1, or equivalent to 20% opacity. [Basis: MBARD Rule 400]
12. No emissions shall constitute a public nuisance. [Basis: MBARD Rule 402]