

**ILLINGWORTH & RODKIN, INC.**  
**Acoustics • Air Quality**

*1 Willowbrook Court, Suite 120  
Petaluma, California 94954*

*Tel: 707-794-0400  
www.illingworthrodkin.com*

*Fax: 707-794-0405  
illro@illingworthrodkin.com*

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March 13, 2015

Mike Campbell, AICP, CPSWQ  
Stormwater Compliance Manager  
HMH  
1570 Oakland Road  
San Jose, CA 95131

**Via email:**     [mcampbell@HMHca.com](mailto:mcampbell@HMHca.com)

**Subject:**       **Edenvale Ave Housing, San Jose, CA**  
                  **TAC Air Quality Assessment**

Dear Mike:

This letter presents results of an analysis of toxic air contaminant (TAC) impacts to the Edenvale residential project in San Jose, California. We understand that the project would construct new residences along Edenvale Avenue in close proximity to sources of toxic air contaminants (TACs) that could adversely affect new residents. The City has requested that a health risk assessment be conducted that addresses the effect of these sources upon the project. This analysis focuses on the TAC effects from nearby sources using the significance levels identified by the Bay Area Air Quality Management District's (BAAQMD) 2011 version of the California Environmental Quality Air (CEQA) Air Quality Guidelines. This letter presents a screening health risk analysis that indicates less-than-significant exposures for both outdoors and indoors; and therefore, no mitigation measures to reduce levels are necessary. Results, in terms of excess cancer risk, non-cancer hazards, and fine particulate matter (PM<sub>2.5</sub>) concentrations, were compared to thresholds recommended by the BAAQMD.

### **BAAQMD Significance Thresholds**

The BAAQMD provides guidance in assessing impacts to lead agencies in the Bay Area. In May 2011, BAAQMD adopted new CEQA Air Quality Guidelines that included thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines.<sup>1</sup>

The BAAQMD CEQA Air Quality Guidelines consider exposure of sensitive receptors to air

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<sup>1</sup> Bay Area Air Quality Management District. 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

pollutant levels that result in an unacceptable cancer risk or hazard, to be significant. For cancer risk, which is a concern with diesel particulate matter and other mobile-source TACs, the BAAQMD considers an increased risk of contracting cancer that is 10 in one million chances or greater, to be significant risk for a single source. The BAAQMD CEQA Guidelines also consider single-source TAC exposure to be significant if annual PM<sub>2.5</sub> concentrations exceed 0.3 micrograms per cubic meter (µg/m<sup>3</sup>) or if the computed hazard index is greater than 1.0 for non-cancer risk hazards. Cumulative exposure is assessed by combining the risks and annual PM<sub>2.5</sub> concentrations for all sources within 1,000 feet of a project. The thresholds for cumulative exposure are an excess cancer risk of 100 in one million, annual PM<sub>2.5</sub> concentrations of 0.8 µg/m<sup>3</sup>, and a hazard index greater than 10.0.

## TAC Impacts

Community health risk assessments look at all substantial sources of TACs located within 1,000 feet of project sites. These sources include highways, busy surface streets, rail lines, and stationary sources identified by BAAQMD. The BAAQMD's Google Earth map tools were used to identify roadway and stationary sources along with screening risk and hazard impacts. Sources of TACs or air pollution identified within 1,000 feet of the project are as follows:

1. Monterey Highway,
2. Caltrain, and
3. A stationary source at the resort/apartment complex across Edenvale

TAC impacts in terms of cancer risk, non-cancer hazards and annual PM<sub>2.5</sub> concentrations from each of these sources are presented in Table 1. Each source and the corresponding impact are described below.

**TAC Levels for Sources within 1,000 feet of the Project**

Source	Cancer Risk (per million)	Annual PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Acute or Chronic Hazard Index
Monterey Road (State Route 82) traffic at +500 feet based on screening data	3.6	0.04	<0.01
Caltrain rail line at ~500 ft. based on modeling at 170 feet	<5.9	<0.02	<0.02
Plant 13134 at +200 ft based on screening data	7.2	0.01	<0.01
<i>Single Source Threshold</i>	<i>10.0</i>	<i>0.3</i>	<i>1.0</i>
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>
<b>Combined Source Total</b>	<b>16.7</b>	<b>&lt;0.07</b>	<b>&lt;0.04</b>
<i>Single Source Threshold</i>	<i>100</i>	<i>0.8</i>	<i>10.0</i>
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>

Note: The maximum for each source does not occur in the same place on the project site, but this combined level assumes that scenario as a conservative worst-case assessment.

## Highway and Local Roadway TAC Impacts

Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. There is one State Highway within 1,000 feet of the project site; State Route 82, Monterey Highway. For highways, BAAQMD has developed a Google Earth Highway Screening Analysis Tool that provides screening level cancer risk, non-cancer hazard and annual PM<sub>2.5</sub> concentrations for various distances on both sides of a highway. One selects the link of the roadway closest to a project site using Google Earth and the tool provides the data. For this portion of State Route 82, Link 554 at 500 feet from the edge of the roadway was used to describe screening level TAC impacts.

#### BAAQMD-Permitted Stationary Sources

BAAQMD's *Stationary Source Screening Analysis Tool* was used to identify stationary sources that may affect future residential development at the site. This is a Google Earth map tool used to identify BAAQMD permitted stationary sources. The linked database includes the associated estimated screening cancer risk and hazard impacts predicted by BAAQMD. One source affecting the site was identified. Plant 13134 is a generator located at 200 Edenvale Avenue listed as belonging to Barry Swenson Builders. The published screening community risk levels were computed to exceed the significance thresholds. As a result, BAAQMD was contacted to obtain source-specific information. BAAQMD provided a corrected emissions rate factor of 0.39 that was to be applied to the screening cancer risk. Therefore, the factor was applied to the screening risk of 45.25 per million and then the BAAQMD *Distance Adjustment Multiplier Tool for Diesel Internal Combustion (IC) Engines* was used to predict the cancer risk at the project site.

#### Caltrain Railroad

The Union Pacific Rail Road (UPRR) line runs parallel to the Monterey Highway, about 500 feet north of the site. This rail line is used by trains for both passenger and freight service. Along this portion of the UPRR line, Caltrain operates trains between Gilroy and San José; Amtrak has daily passenger trains; and UPRR operates freight trains. The effects of the rail line were evaluated for the TAC impacts. The iStar Draft Environmental Impact Report Air Quality Analysis addressed impacts for residential development along Great Oaks Boulevard that is about 2 miles southeast of the project site<sup>2</sup>. This study modeled long-term average diesel particulate matter or DPM concentrations that were used to compute cancer risks using methods recommended by BAAQMD<sup>3</sup> and the California Office of Environmental Health Hazard Assessment (OEHHA)<sup>4</sup>. The train line has the same relative orientation to this project as it does the iStar project and the train line has the same activity. The iStar analysis predicted impacts from trains at 170 feet south of the train line. This project is 500 feet south of the proposed train line, so impacts would be less than those reported for the iStar project.

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<sup>2</sup> Great Oaks Mixed Use Project (iStar Site) File No. PDC12-028 and GP12-12-001 see <http://www.sanjoseca.gov/index.aspx?NID=2435>, accessed on March 13, 2015.

<sup>3</sup> BAAQMD, Air Toxics NSR Program Health Risk Screening Analysis (HSRA) Guidelines, January 2010.

<sup>4</sup> OEHHA 2003. Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August 2003.

#### Combined Community Risk Levels

The combined community risk level is computed by adding the maximum TAC impacts together, although they would occur at different locations. The combined cancer risk would be 16.9 per million, combined PM<sub>2.5</sub> concentration would be less than 0.08 µg/m<sup>3</sup>, and the non-cancer hazard index would be less than 0.1. These community risk impacts are below the thresholds for combined sources.

#### **TAC Mitigation**

Community risk thresholds for TAC sources affecting the project site were found to be below significance thresholds for both single and combined sources. As a result, features to mitigate or reduce these impacts are not necessary.

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This concludes *Illingworth & Rodkin, Inc.*'s assessment of TAC community risk issues associated with the Edenvale Ave Residential project in San Jose, California. Please do not hesitate to call with any questions or concerns regarding this assessment.

Sincerely,

James A. Reyff  
Senior Consultant, Principal  
***Illingworth & Rodkin, Inc.***

**I&R# 15-041**

Attachment 1:        Screening SSIF form completed by BAAQMD and Diesel Engine  
Distance Multiplier

**Attachment 1:      Screening SSIF form completed by BAAQMD and Diesel  
Engine Distance Multiplier**

Bay Area Air Quality Management District  
Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD. This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

For guidance on conducting a risk & hazard screening, including for roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

[Also see the District's](#)

Table A: Requestor Contact Information	
Contact Name:	James A. Reyff
Affiliation:	Illingworth & Rodkin, Inc.
Phone:	707-766-7700x24
Email:	jreyff@illingworthrodkin.com
Date of Request	3/12/2015
Project Name:	Edenvale Housing
Address:	Edenvale Ave near Chynoweth Ave
City:	
County:	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.):	Residential
Project size (# of units, or building square feet):	28
Comments:	
Source is above threshold with screening data	

- For Air District assistance, the following steps must be completed:
1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include
  2. Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the co Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/GUIDELINES/Tools-and-Methodology.aspx>. The small points on the map represent stationary sources permitted by the District permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click o source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 conc
  3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
  4. Identify stationary sources near the project. Verify that the location of the source on the map matches with the source's addre Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping error
  5. List the stationary source information in Table B Section 1 below.
  6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSa) data INSTEAD of screen sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSa values are presented, these values have s and cannot be adjusted further.
  7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are ava If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three
- Note that a public records request received for the same stationary source information will cancel the processing of your SSIF re**
- Submit forms, maps, and questions to Alison Kirk at 415-749-5169, or [akirk@baaqmd.gov](mailto:akirk@baaqmd.gov).**



Table B Section 1: Requestor fills out these columns based on Google Earth data										Table B Section 2: BAAQMD returns form with additional information in these columns as needed									
Distance from Receptor (feet)	Plant # or Gas Dispensary #	Facility Name	Street Address	Screening Level Cancer Risk (1)	Screening Level Hazard Index (1)	Screening Level PM2.5 (1)	Permit #s (2)	Source #s (2)	Fuel Code (3)	Type of Source(s) (4)	HRSa Ap # (5)	HRSa Date (6)	HRSa Engineer (7)	HRSa Cancer Risk in a million	Age Sensitivity Factor (8)	HRSa Adjusted Cancer Risk	HRSa Chronic Health (9)	HRSa PM2.5 Risk	Status/Comments
≥200 ft	13134	Barry Swenson Builder	200 EDENVALE AVENUE	45.25	0.016	0.01												0	Note: see next sheet
																		0	
			Risk with Distance	18.55														0	
																		0	
																		0	
																		0	
																		0	
																		0	
																		0	
																		0	

**Footnotes:**

1. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
2. Each plant may have multiple permits and sources.
3. Fuel codes: 98 = diesel, 189 = Natural Gas.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. If a Health Risk Screening Assessment (HRSa) was completed for the source, the application number will be listed here.
6. The date that the HRSa was completed.
7. Engineer who completed the HRSa. For District purposes only.
8. All HRSa completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
9. The HRSa "Chronic Health" number represents the Hazard Index.
10. Further information about common sources:
  - a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
  - b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less. To be conservative, requestor should assume the cancer risk is 1 in a million and the hazard index is 0.003 for these sources.
  - c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
  - d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the number of years perc use will continue after the project's residents or other sensitive receptors (such as students, patients, etc) take occupancy.
  - e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Multiplier worksheet.
  - f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
  - g. This spray booth is considered to be insignificant.

Plant# 13134 Barry Swenson Builder  
200 Edenvale Avenue  
San Jose, CA 95136

ap

2829

list ALL applic by PLANT NUMBER (options: Current/ Archive) >> 13134

[C]urrent, [A]rchive, or [F]uture? c  
[P]lant, [S]ource, [A]bate. device, or [E]mis. Point? p

Plant #: 13134  
Company name: Barry Swenson Builder  
Location: 200 Edenvale Avenue, San Jose, CA 95136

CURRENT Sources:

1 Generac #SDO20, Emergency Generator [exempt]  
Standby Diesel engine, 32 hp, Generac, 182.5 cu in  
C2260098 no train

Application #: 2829  
Project title: New Facility/Generator  
Engineer: Dharam Singh [536 ]  
Received: 05/15/01  
Final disposition: Exempt, 07/31/01

No CURRENT Abatement Devices

No CURRENT Emission Points

Note: The wrong factor was used to calculate the screening values for this engine (due to its small hp)  
We should be using 13 lbs/1000 gallons and instead, a factor of 33.5 was used. I would multiply the cancer risk by 0.39 (ratio of 13/33.5) to estimate the new cancer risk.