FINAL

EXHIBIT B

STANLEY BOULEVARD MIXED-USE PROJECT – HEALTH RISK ANALYSIS AND AIR POLLUTANT EMISSIONS ASSESSMENT PLEASANTON, CALIFORNIA

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INTRODUCTION

This report provides the results of an assessment of potential health risk impacts and air pollutant emissions from the proposed mixed-use retail and residential project at Stanley Boulevard and Bernal Avenue in Pleasanton, California, the Vintage project. The project proposes to construct up to 40,000 square feet (sf) of mixed retail and 345 apartment units on approximately 16 acres of land. The project would be located at the southeast corner of Stanley Boulevard and Bernal Avenue. This report addresses operational and construction-related air quality health risk and construction-related criteria air pollutant checklist questions for compliance with CEQA, assuming the ultimate development of the project as described above.

The City's Proposed Pleasanton General Plan 2005-2025 EIR ("EIR") as revised by the City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment and Rezonings Draft and Final Supplemental Environmental Impact Report ("SEIR") analyzed the potential air quality impacts for development in the City during the life of the General Plan and specifically for the City's rezoning, including the Vintage project. This report analyzes whether the potential air quality impacts for the Vintage project were adequately analyzed in the EIR as revised by the SEIR. Specifically, this air quality study determines whether there are any:

(1) substantial changes to the project analyzed in the SEIR which require major revisions to the SEIR due to new significant effects or the increase in severity of previously identified significant effects;

(2) substantial changes in circumstances under which the project is undertaken which will require major revisions to the SEIR due to new significant effects or a substantial increase in the severity of previously identified significant effects;

(3) new information of substantial importance which shows that the project will have one or more new significant effects, substantially more severe significant effects previously studied in the SEIR, mitigation measures or alternatives previously found not to be feasible would in fact be feasible to reduce a significant impact but the project proponent declines to adopt the mitigation measure or alternative, or a new mitigation measure or alternative different from those studied in the SEIR that would substantially reduce a significant effect but the project proponent declines to adopt such mitigation measure or alternative. (See CEQA Guidelines 15162.)

Due to the project size, the project is not anticipated to have operational impacts to regional air quality in terms of criteria air pollutant emissions or cause local air quality impacts that would be associated with traffic (i.e., cause violations of ambient air quality standards for carbon monoxide).

SETTING

The project is located in the central portion of Alameda County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$).

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NOx). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempt to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate

respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel particulate matter (DPM) is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[1] The regulation requires affected vehicles to meet specific performance requirements between 2011 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The closest sensitive receptors to the project site are located to the south and southeast of the project construction site (see *Figure 1* in *Attachment 1*). A preschool at Congregation Beth Emek is located about 150 feet south of the project site on the south side of Nevada court.

[1] http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm

IMPACTS AND MITIGATIONS

Significance Thresholds

Criteria Pollutants

The Bay Area Air Quality Management District's (BAAQMD) adoption of its 2011 thresholds[2] was called into question by an order issued March 5, 2012, in *California Building Industry Association v. BAAQMD* (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The claims made in the case concerned the environmental impacts of adopting the thresholds, that is, how the thresholds would indirectly affect land use development patterns. Those issues are not relevant to the scientific basis of BAAQMD's analysis of what levels of pollutants should be deemed significant. This analysis considers the science informing the thresholds as being supported by substantial evidence. Scientific information supporting the thresholds was documented in BAAQMD's proposed thresholds of significance analysis.[3] The thresholds will not cause any indirect impact in terms of land use development patterns insofar as this project is concerned, because the proposal to construct the project is not influenced by the BAAQMD guidelines. Accordingly, consistent with the City's analysis in the SEIR (SEIR, p. 4.B-11), this report uses the thresholds and methodologies from BAAQMD's May 2011 CEQA Air Quality Guidelines to determine whether there are any new impacts not analyzed in the SEIR. The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1.

Table 1 Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hour avg.) or 20.0 ppm (1-hour avg.)	
Fugitive Dust	Best Management Practices	Not Applicable	

Note: ROG = reactive organic gases, NO_X = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.

Community Risk Thresholds of Significance

Toxic Air Contaminants

The Bay Area Air Quality Management District (BAAQMD) identified significance thresholds for exposure to Toxic Air Contaminants (TACs) and fine particulate matter ($PM_{2.5}$) as part of its CEQA Air

[2] BAAQMD, 2011. *BAAQMD CEQA Air Quality Guidelines*. May. Updated: May 2012 after the 2011 version was vacated by a 2012 court ruling.
[3] BAAQMD. 2009. *California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance*. December.

Quality Guidelines (May 2011) that were recently vacated by the court action described above. This analysis considers the science informing the thresholds as being supported by substantial evidence. The Guidelines include thresholds to evaluate single source and cumulative source impacts of TACs and $PM_{2.5}$ on existing sensitive receptors and proposed sensitive receptors. The single source impact thresholds are based on BAAQMD Risk Management Policy and are currently used by BAAQMD to evaluate impacts from new air pollution sources. The cumulative community risk thresholds that were identified by BAAQMD are the only thresholds of this kind. Accordingly, consistent with the City's analysis in the SEIR (SEIR, p. 4.B-11), this report uses the thresholds and methodologies from BAAQMD's May 2011 CEQA Air Quality Guidelines to determine whether there are any new impacts not analyzed in the SEIR. Specifically, this report analyzes potential TAC impacts and health risk assessment in the context of SEIR Impact 4.B-4 and Mitigation Measure 4.B-4 discussed below.

Single Source Impacts

If emissions of TACs or $PM_{2.5}$ exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact and mitigation would be required.

- An excess cancer risk level of more than 10 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.
- An incremental increase of more than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$.

Cumulative Source Impacts

A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius of the fence line of a source or from the location of a receptor, plus the contribution from the project, exceeds the following thresholds.

- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0.
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.

Impact 1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? *Less than significant*

The EIR and SEIR fully analyze cumulative impacts. The EIR's Air Quality Impact AQ-4 on page 3.10-12 provides that the following impact will be less than significant: "Development due to implementation of the proposed General Plan buildout would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard."

Furthermore, the SEIR found that Air Quality Impact 4.B-6 on page 4.B-26 is less than significant. SEIR Impact 4.B-6 provides that "[d]evelopment proposed as part of the General Plan Amendment and rezonings, when combined with other foreseeable development in the vicinity, could potentially be inconsistent with the growth assumptions of the Bay Area 2010 Clean Air Plan resulting in a cumulative air quality impact."

The Vintage project specific analysis below reveals that there are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial

importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives.

The Bay Area is considered a non-attainment area for ground-level ozone and fine particulate matter ($PM_{2.5}$) under both the federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for respirable particulates or particulate matter with a diameter of less than 10 micrometers (PM_{10}) under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10} and $PM_{2.5}$ and apply to both construction period and operational period impacts. The California Emissions Estimator Model, Version 2011.1.1 (CalEEMod) was used to predict operational and construction emissions. CalEEMod input and output worksheets are included in *Attachment 2*.

Construction

The SEIR Air Quality Impact 4.B-1 on pages 4.B-14 to 4.B-16 fully analyzed the potential increased long-term emissions of criteria pollutants associated with construction activities that could contribute substantially to an air quality violation. With implementation of Mitigation Measure 4.B-1a (also known as 4.B-1) discussed below regarding fugitive dust, the impacts would remain less than significant. There are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives.

Mitigation Measure 4.B-1 in the Mitigation Monitoring and Reporting Program for the Final SEIR provides in full that: "Prior to the issuance of a grading or building permit, whichever is sooner, the project applicant for a potential site for rezoning shall submit an air quality construction plan detailing the proposed air quality construction measures related to the project such as construction phasing, construction equipment, and dust control measures, and such plan shall be approved by the Director of Community Development. Air quality construction measures shall include Basic Construction Mitigation Measures (BAAQMD, May 2011) and, where construction-related emissions would exceed the applicable thresholds, Additional Construction Mitigation Measures (BAAQMD, May 2011) shall be instituted. The air quality construction plan shall be included on all grading, utility, building, landscaping, and improvement plans during all phases of construction, access roads, parking areas and staging areas at construction sites."

The CalEEMod model estimates construction of the project at 15 months. The anticipated construction phasing schedule begins in August 2013 and ends in October 2014. 16,000 cubic yards (CY) of exported soil hauling was modeled. No import of fill material is expected for construction. Generators are not expected, since line power would be installed soon after the start of construction. Equipment such as welders and air compressors were assumed to run off line power. The anticipated construction phasing schedule and proposed construction equipment list are included in *Attachment 1*.

The model default equipment values were used for computing exhaust emissions rates with the exception that load factors for equipment usage were reduced by 33 percent to be consistent with CARB's OFFROAD2010 modeling methodologies. In addition, ROG emissions from architectural coatings were adjusted from 250 grams per liter of VOC[4] to 150 grams per liter to account for BAAQMD's Regulation 8, Rule 3 that applies to the volatile organic compound content of paints and solvents sold and used in the region.

[4] VOC = volatile organic gases, which are similar to ROG or reactive organic gases

Table 2 reports the average daily emissions. Average daily emissions were computed by dividing the total construction period emissions by the number of anticipated construction days. Much of the emissions were anticipated to occur over about 330 work days during the approximately 15-month construction period. As shown in Table 1, average daily emissions of ROG, NOx, PM_{10} exhaust, or $PM_{2.5}$ **exhaust during construction would not exceed the BAAQMD significance thresholds**.

Table 2 Project Average Daily Construction Emissions

Description	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
2013 Annual Emissions in tons	0.39	2.74	0.13	0.13
2014 Annual Emissions in tons	3.87	1.78	0.10	0.10
Average Daily Emissions in pounds per day*	26	27	1	1
BAAQMD Thresholds	54	54	82	54

*Assuming 330 construction workdays at 22 days per month for 15 months

Operational Emissions

SEIR Air Quality Impacts 4.B-2 and 4.B-3 on pages 4.B-17 to 4.B-20 fully analyzed the consistency with the Clean Air Plan and implementation measures of the Clean Air Plan. The SEIR found that both potential impacts were less than significant and no mitigation measures were needed. There are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives.

The project specific analysis concludes that due to the project size, operational period emissions would be less than significant. In their latest update to the CEQA Air Quality Guidelines, BAAQMD identifies screening criteria for the sizes of land use projects that could result in significant air pollutant emissions. For operational impacts, the screening project size for mid-rise apartments is identified at 494 dwelling units and large retail projects ("strip mall") is identified at 99,000 sf. Retail and apartment projects of a smaller size would be expected to have less-than-significant impacts with respect to operational-period emissions. Since the project proposes to construct and operate 345 new apartments (about 70% of the screening size) and 35,000 sf of mixed retail (about 35% of the screening size), it is concluded that **emissions would be below the BAAQMD significance thresholds for operational impacts** because mixed-use projects, such as this one, would be expected to result in emissions less than those that the screening criteria are based on. Stationary sources of air pollution (e.g., back-up generators) have not been identified with this project, and therefore, are not envisioned as part of the proposed project.

Impact 2: Expose sensitive receptors *that are part of the Proposed Project* to substantial pollutant concentrations? *Less than significant*

TACs were fully analyzed in Impact AQ-5 in the EIR on page 3.10-13. Impact AQ-5 provides that "Development due to implementation of the proposed General Plan could result in toxic air contaminant (TAC) emissions that could create a risk for new sensitive receptors" is less than significant. Several General Plan policies and programs would minimize the potential for toxic air contaminant emission impacts as a result of build out under the proposed General Plan.

TACs were also fully analyzed in the SEIR on pages 4.B-21 to 4.B-24 under Impact 4.B-4: "Development facilitated by the General Plan Amendment and rezoning could potentially include residential or mixed-use developments that could expose sensitive receptors to substantial health risk from diesel particulate matter (DPM) and other TACs from mobile and stationary sources." The SEIR included Mitigation Measure 4.B-4 to reduce the potential TAC impact to less than significant. Mitigation Measure 4.B-4 provides that:

"Reduce Exposure to TACs. On project sites where screening thresholds are exceeded, the following measures shall be implemented for development on all the potential sites for rezoning to reduce exposure to TACs and improve indoor and outdoor air quality:

Indoor Air Quality -- In accordance with the recommendations of BAAQMD, appropriate measures shall be incorporated into site and/or building design in order to reduce the potential health risk due to exposure of sensitive receptors to TACs to a less than significant level.

Project applicants shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the BAAQMD requirements to determine the exposure of project residents/occupants/users to air pollutants prior to PUD approval. The HRA shall be submitted to the Community Development Department for review and approval. The applicant shall implement the approved HRA mitigation measure recommendations, if any, in order to reduce exposure to TACs below BAAQMDs threshold of significance at the time of project approval.

Outdoor Air Quality -- To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants."

In accordance with SEIR Mitigation Measure 4.B-4, the requirements of Mitigation Measure 4.B-4 are only triggered if the project exceeds the BAAQMD screening thresholds. The project exceeds the screening threshold for roadway emissions as the traffic on adjacent roadways (Stanley Boulevard and Bernal Avenue) exceeds 10,000 vehicles per day[5]. There are no set screening threshold for all of the sources analyzed in this report such as railroads and stationary sources. To be conservative, this report includes a health risk assessment for all sources regardless of screening threshold. Therefore, this report satisfies SEIR Mitigation Measure 4.B-4.

The operation of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels. However, the proposed project would locate new residences near the Union Pacific (UP) rail line to the north of the project. Additionally, proximity to busy streets is also associated with exposure to source of TACs or $PM_{2.5}$, predominantly from vehicle emissions. Finally, stationary sources, such as gasoline stations and dry cleaners, are sources of TACs. The BAAQMD recommends using a 1,000-foot radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs.

A review of the area indicates that the proposed project would place new residences near Stanley Boulevard and Bernal Avenue. The project site is not located within 1,000 feet of any highways. In addition, two stationary sources with screening risk greater than the BAAQMD thresholds at a distance of 50 feet from the source are located within 1,000 feet of the project site. The analysis of these sources used screening data provided by BAAQMD to identify the potential cancer risk and $PM_{2.5}$ exposure risks posed by roadways and stationary sources located within 1,000 feet.

[5] City of Pleasanton Traffic Engineering, 2011. *Traffic Counts Map*. Available: http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html. Accessed: October 26, 2012.

Rail Emissions

Impacts from Rail Line

The UP rail line is about 270 feet from the northern boundary of the proposed project site. The rail line is north of Stanley Boulevard and runs parallel to Stanley Boulevard in the vicinity of the project site as shown in *Figure 2* in *Attachment 1*. This rail line is used by Altamont Commuter Express (ACE) passenger trains and for freight service. Based on the current ACE schedule, 8 trains run along this line during the weekdays. In addition to the ACE, there are about 8 freight trains that also use this rail line on a daily basis.[6] Due to the proximity of the rail line to the proposed project, potential health risks to future residents at the proposed project from DPM emissions from train diesel locomotive engines were evaluated.

Rail Emissions Modeling

DPM and $PM_{2.5}$ emissions from trains on the rail line were calculated using EPA emission factors for locomotives[7] and CARB adjustment factors to account for fuels used in California.[8] Diesel locomotive engines for the ACE passenger trains range from 3,000 to 3,200 horsepower (hp) and are, on average, currently using locomotive with a mix of Tier 0 and Tier 2 engines, with about 20 percent assumed to be Tier 0 and 80 percent Tier 2 in 2015. The freight trains are larger locomotives, about 4,300 hp, with about 50% of them assumed to be using Tier 2 engines by 2015.

Although the freight trains may have more than one locomotive, it was assumed that for this section of the rail line, which is relatively level, only one locomotive would be powering the trains. Each passenger train was also assumed to be operating one locomotive on this portion of the line. Emissions from the trains were calculated assuming that the passenger train locomotives use 3,200 hp engines and the freight trains use 4,300 hp engines and the trains would be traveling at about 40 mph with the engines operating at about 60% load. Train emissions were calculated for 2015. Although locomotive emissions are expected to decrease in the future as existing locomotives get rebuild or replaced, for this analysis train emissions were assumed to remain at 2015 levels in the future. Details of the emission calculations are contained in *Attachment 1*.

Railroad Dispersion Modeling

Modeling of locomotive emissions was conducted using the EPA's ISCST3 dispersion model and a 5-year data set (1991 - 1995) of hourly meteorological data from the BAAQMD meteorological monitoring station in Pleasanton. Locomotive emissions were modeled as line sources (series of volume sources) along the rail lines in the vicinity of project. Concentrations were calculated at receptor locations within the project site where residential development would occur. Receptor heights of 5.9 feet (1.8 meters), 15.9 feet (4.8 meters), and 25.9 feet (7.9 meters) were used to represent the first three residential levels of the project. The maximum modeled long-term DPM and $PM_{2.5}$ concentrations occurred at the second level (6.8 meters) project receptors closest to the rail lines. The portion of the rail line modeled and the project site receptor locations are shown in *Figure 2* in *Attachment 1*. *Attachment 1* includes details on the assumptions used with the modeling and the DPM and $PM_{2.5}$ emission rates used.

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[6] Metropolitan Transportation Commission, 2006. *Bay Area Regional Rail Plan, Technical Memorandum 4a, Conditions, Configuration & Traffic on Existing System*. November 15.
[7] *Emission Factors for Locomotives*, USEPA 2009 (EPA-420-F-09-025)
[8] *Off road Modeling, Change Technical Memo*, Changes to the Locomotive Inventory, CARB July 2006.

Computed Cancer Risk

Using the maximum modeled long-term average DPM concentration, the maximum individual cancer risk at the project site was computed using methods recommended by BAAQMD[9] and the California Office of Environmental Health Hazard Assessment (OEHHA).[10] The factors used to compute cancer risk are highly dependent on modeled concentrations, exposure period or duration, and the type of receptor. The exposure level is determined by the modeled concentration; however, it has to be averaged over a representative exposure period. The averaging period is dependent on many factors, but mostly the type of sensitive receptor that would reside at a site. This assessment conservatively assumed long-term residential exposures. OEHHA has developed exposure assumptions for typical types of sensitive receptors. These include nearly continuous exposures of 70 years for residences. It should be noted that the cancer risk calculations for 70-year residential exposures reflect use of BAAQMD's most recent cancer risk calculation method, adopted in January 2010. This method applies BAAQMD recommended Age Sensitivity Factors to the cancer risks for residential exposures, accounting for age sensitivity to toxic air contaminants. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer causing TACs. The cancer risk calculations are provided in *Attachment 1*.

The maximum increased cancer risk was computed as 3.2 cases per million. This was modeled at a receptor in the northern portion of the residential area near Stanley Boulevard. Cancer risks at other residential areas within the project site would be lower than the maximum cancer risk. Under the BAAQMD CEQA Air Quality Guidelines, the cancer risk threshold of significance provides that an incremental risk of greater than 10.0 cases per million from a single source at the Maximally Exposed Individual (MEI) would be a significant impact. **Therefore, this incremental risk is below the BAAQMD threshold of significance**.

Non-Cancer Health Effects

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The chronic inhalation reference exposure level (REL) for DPM is 5 $\mu g/m^3$. The maximum predicted annual DPM concentration from locomotives is 0.006 $\mu g/m^3$, which is much lower than the REL. Thus, the Hazard Index (HI), which is the ratio of the annual DPM concentration to the REL, **would be much lower than the BAAQMD threshold of significance criterion of a HI greater than 1.0.**

In addition to evaluating the health risks from DPM, potential impacts from $PM_{2.5}$ emissions from the locomotives traveling on the rail line adjacent to the project site were evaluated. The maximum average $PM_{2.5}$ concentration of 0.006 $\mu g/m^3$ occurred at the same receptor that had the maximum cancer risk. **This concentration is well below the BAAQMD $PM_{2.5}$ threshold of significance which is greater than 0.3 $\mu g/m^3$.**

<u>Impacts from Local Roadways</u>

BAAQMD provides screening tables that provide initial estimates of community risk impacts from local roadways.[11] According to the City of Pleasanton, Stanley Boulevard east of Bernal Avenue has an

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[9] BAAQMD, *Air Toxics NSR Program Health Risk Screening Analysis (HSRA) Guidelines*, January 2010.

[10] OEHHA 2003. Air Toxics Hot Spots Program Risk Assessment Guid*elines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August 2003.

[11] See BAAQMD website to access screening tools: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Average Daily Traffic volume (ADT) of 28,700 and Bernal Avenue south of Stanley Boulevard has an ADT of 18,200.[12]

BAAQMD screening data for Alameda County indicate the exposure from Stanley Bouleavrd traffic includes a cancer risk of 5.8 in one million, $PM_{2.5}$ levels of 0.25 µg/m^3 and acute or chronic Hazard Index of less than 0.1. **These results are below the thresholds of significance outlined above** (Cancer Risk threshold of greater than 10.0 cases per million, $PM_{2.5}$ threshold of levels of greater than 0.3, and a Hazard Index threshold of greater than 1.0). These results are based on applying the BAAQMD screening tool for east-west surface street with ADT volumes of 30,000 or less at a setback distance of 50 feet.

The screening data indicate that Bernal Avenue traffic includes a cancer risk of 4.6 in one million, $PM_{2.5}$ levels of 0.19 µg/m^3 and acute or chronic Hazard Index of less than 0.1. **These results are below the thresholds of significance outlined above** (Cancer Risk threshold of greater than 10.0 cases per million, $PM_{2.5}$ threshold of levels of greater than 0.3, and a Hazard Index threshold of greater than 1.0). T These results are based on applying the BAAQMD screening tool for north-south surface streets with ADT volumes of 20,000 or less at a setback distance of 50 feet.

Impacts from Stationary Sources

The BAAQMD's Google Earth Screening Tool provides locations of stationary sources of TACs and screening level exposures that require adjustment based on the distance from the source. This tool was used to identify sources within 1,000 feet of the site. This tool identified two sources that could affect the project site, (1) Plant 14553, that is an emergency back-up generator located at 3560 Nevada Street operated by the City of Pleasanton about 450 feet southwest of the project and (2) Plant G11346, that is an Arco gas station at 3121 Bernal Avenue about 200 feet west of the project. Other sources that are below the thresholds (i.e., cancer risk, annual PM2.5 concentration and Hazard Index), which wouldn't adversely affect the site are: (1) Plant 10421, Diablo Auto Body at 3275 Bernal Ave, (2) Plant 18669, A&M Printing at 3589 Nevada Street, (3) Plant 18150, Gil's Body Works at 142 Wyoming Street, and (4) Plant G7927, Central Petroleum Maintenance at 176 Wyoming Street. These sources are not listed by BAAQMD to have measureable effects at the project site.

Based on the BAAQMD screening data obtained from BAAQMD's Google Earth Screening Tool for Plant 14553, the nearby generator is predicted to have a cancer risk of less than 8.8 in one million, a Hazard Index of less than 0.1, and a $PM_{2.5}$ concentration of less than 0.1 µg/m^3, and Plant G11346, the gas station, is predicted to have a cancer risk of less than 4.5 in one million, a Hazard Index of less than 0.1, and a $PM_{2.5}$ concentration of less than 0.1 µg/m^3 at the proposed project. **The results for both of these sources are below the BAAQMD thresholds of significance outlined above** (Cancer Risk threshold of greater than 10.0 cases per million, a Hazard Index threshold of greater than 1.0, and $PM_{2.5}$ threshold of levels of greater than 0.3).

Cumulative Community Risk Impacts

Based on screening data provided by BAAMQD, the combination of exposures from the UP rail line, Stanley Boulevard, Bernal Avenue and nearby stationary sources would result in excess cancer risks of

[12] City of Pleasanton Traffic Engineering, 2011. *Traffic Counts Map*. Available: http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html. Accessed: October 26, 2012.

less than 27 per million, $PM_{2.5}$ exposures of less than 0.7 µg/m^3 and a Hazard Index well below 1.0. **These exposures are below the cumulative source thresholds of significance** identified by BAAQMD (Cumulative Cancer Risk threshold: an excess cancer risk level of more than 100 in one million or a chronic non-cancer hazard index greater than 10.0. Cumulative $PM_{2.5}$ threshold: 0.8 µg/m^3 annual average $PM_{2.5}$).

Summary of Impact 2

There are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives. The project specific analysis for Impact 2 concludes that the potential project impacts will be **less than significant**.

Impact 3: Expose *existing* sensitive receptors to substantial pollutant concentrations *caused by construction of the project*? *Less than significant*

Fugitive Dust

Construction activity is anticipated to include demolition of existing buildings and paved areas, excavation, grading, building construction, paving and application of architectural coatings. During demolition, excavation, grading and some building construction activities, substantial amounts of dust could be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed at any given time, amount of activity, soil conditions and meteorological conditions.

Construction activities could temporarily expose nearby sensitive receptors to substantial pollutant concentrations, principally PM_{10}, from fugitive dust sources. This is a potentially significant impact. However, to address fugitive dust emissions that lead to elevated PM_{10} and $PM_{2.5}$ levels near construction sites the BAAQMD CEQA Air Quality Guidelines identify Basic Construction Mitigation Measures and Additional Construction Mitigation Measures. If included in construction projects, these impacts will be considered less than significant.

Fugitive dust emission impacts were fully analyzed and mitigated in the SEIR in Impact 4.B-1 on pages 4.B-14 to 4.B-16. Specifically, the SEIR provides that implementation of Mitigation Measure 4.B-1a at page 4.B-16 would "ensure that impacts from fugitive dust would be less than significant." Mitigation 4.B-1a is set forth as Mitigation Measure 4.B-1 in the Mitigation Monitoring and Reporting Program under Section B. Air Quality.

Mitigation Measure 4.B-1 in the Mitigation Monitoring and Reporting Program for the Final SEIR provides in full that: "Prior to the issuance of a grading or building permit, whichever is sooner, the project applicant for a potential site for rezoning shall submit an air quality construction plan detailing the proposed air quality construction measures related to the project such as construction phasing, construction equipment, and dust control measures, and such plan shall be approved by the Director of Community Development. Air quality construction measures shall include Basic Construction Mitigation Measures (BAAQMD, May 2011) and, where construction-related emissions would exceed the applicable thresholds, Additional Construction Mitigation Measures (BAAQMD, May 2011) shall be instituted. The air quality construction plan shall be included on all grading, utility, building, landscaping, and improvement plans during all phases of construction, access roads, parking areas and staging areas at construction sites."

Thus, the SEIR fully analyzed any potentially significant fugitive dust impact and the Vintage project is subject to the SEIR Mitigation Measure 4.B-1 to reduce such potentially significant impact to less than significant. There are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives. **Thus, the potential impact is less than significant**.

TACs

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust which is a TAC. In addition to SEIR Mitigation Measure 4.B-1 outlined above requiring an air quality construction plan, Mitigation Measure 4.B-4 regarding TACs fully mitigate any potential impact.

Moreover, BAAQMD has developed screening tables for evaluating potential impacts from toxic air contaminants emitted at construction projects.[13] The screening tables are described by BAAQMD as "environmentally conservative interim guidance" and are meant to be used to identify potentially significant impacts that should be modeled using refined techniques. These screening tables indicate that construction activities similar to this project could have significant impacts at the distances of nearby residences, with the primary impact being excess cancer risk. Since project construction activities would include demolition, excavation, grading and building construction that would last longer than 6 months and would occur adjacent to neighboring residences, a more refined-level study of community risk assessment was conducted to evaluate whether impacts would be significant, and if so, identify the project features or mitigation measures that would be necessary to avoid significant impacts in terms of community risk impacts to nearby sensitive receptors (e.g., adjacent residences). As outlined below, the refined-level study found that no impacts would be significant.

The refined health risk assessment focused on modeling on-site construction activity using construction fleet information included in the project design features. Construction period emissions were computed using the CalEEMod model along with projected construction activity. Construction of the project is expected to occur over a fifteen month period during 2013 and 2014. Construction activities were assumed to occur 5 days per week between 8 a.m. - 5 p.m. The CalEEMod model provided annual $PM_{2.5}$ exhaust emissions (assumed to be diesel particulate matter) for the off road construction equipment used for construction of the project of 0.10 and 0.07 tons per year for 2013 and 2014 construction years, respectively. On-road $PM_{2.5}$ exhaust emissions were calculated by CalEEMod as 0.03 and 0.02 tons per year for 2013 and 2014, respectively. These on-road emissions are a result of on-road haul truck travel during grading activities and vendor deliveries during construction, with overall trip lengths of 20 miles for haul trucks and 7.3 miles for vendor trips. Since only a small portion of the total on-road vehicle exhaust emissions occur at the project site, 5 percent of the total on-road emissions were assumed to occur at the project construction site.

The U.S. EPA ISCST3 dispersion model was used to predict concentrations of DPM at existing residences near the project site. The ISCST3 dispersion model is a BAAQMD recommended model for use in refined modeling analysis of CEQA projects.[14] The ISCST3 modeling of construction activities used a single area source with a release height of 6 meters to represent the project construction area. The elevated source height reflects the height of the equipment exhaust pipes and buoyancy of the exhaust

[13] BAAQMD. 2010. *Screening Tables for Air Toxics Evaluation During Construction*. May.
[14] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. Version 2.0, May 2011.

plume. The area source used for the construction emissions modeling is shown on *Figure 1* in *Attachment 1*.

Emissions were modeled as occurring daily between 8 a.m. - 5 p.m. for each of the construction years modeled. The ISCST3 model used a 5-year data set (1991 - 1995) of hourly meteorological data from the BAAQMD meteorological monitoring station in Pleasanton. Period average concentrations from construction activities were predicted for 2013 and 2014, with the concentrations for each construction year based on the 5-year average concentrations from modeling 5 years of meteorological data. DPM concentrations were calculated at receptors placed at nearby residences with receptor heights, 5.9 feet (1.8 meters) and at the preschool with a receptor height of 3.3 feet (1 meter).

Increased cancer risks were calculated using the maximum modeled annual concentration and BAAQMD recommended risk assessment methods using age sensitivity factors for residential child exposure (3rd trimester through 2 years of age), preschool child exposure (assumed to be less than 2 years of age), and for an adult exposure. Since the modeling was conducted assuming emissions occurred 365 days per year, the default OEHHA[15] exposure period of 350 days per year was used. Infant and child exposures at the preschool and residences were assumed to occur through the entire construction period.

Results of this assessment indicate than the maximum incremental child cancer risk occurred at the nearby preschool with 3.2 excess cancer cases per a million. The maximum incremental residential child cancer risk is 2.6 in a million and the adult residential incremental cancer risk is 0.1 excess cancer cases in a million. Under the BAAQMD CEQA Air Quality Guidelines, an incremental risk of greater than 10.0 cases per million from a single source would be a significant impact. Therefore, the project's cancer risks are well below the BAAQMD's cancer risk thresholds. The maximum-modeled annual average $PM_{2.5}$ concentration at the MEI location was 0.02 $\mu g/m^3$, which is below the BAAQMD threshold of 0.3 $\mu g/m^3$. The maximum non-cancer risk evaluated using BAAQMD's hazard index would be 0.004, while the threshold is 1.0. **Therefore, the potential TAC construction impact is less than significant.**

The locations of the maximum preschool and residential cancer risks are shown on *Figure 1 in Attachment 1*. *Attachment 1* includes the emission calculations used for the modeling and the cancer risk calculations.

Impact 4: Expose residential development occupants to sources of substantial odors affecting a substantial number of people? *Less than significant*

The potential impact from odors on residential development occupants is fully analyzed and mitigated in the SEIR on pages 4.B-24 to 4.B-25. SEIR Air Quality Impact 4.B-5 provides that "[d]evelopment facilitated by the proposed General Plan Amendment and rezoning could potentially include residential developments that expose occupants to sources of substantial odors affecting a substantial number of people." The SEIR lists General Plan policy 8 and programs 8.1 and 8.2 that help to reduce odors. Also, the SEIR includes Mitigation Measure 4.B-5 to ensure that odor impacts are less than significant. Mitigation Measure 4.B-5 provides that "[i]f odor complaints associated with the solid waste transfer station operations are received from future residences of the potential sites for rezoning (Sites 6, 8, 11, and 14), the City shall work with the transfer station owner(s) and operator(s) to ensure that odors are minimized appropriately."

[15] OEHHA 2003. Air Toxics Hot Spots Program Risk Assessment Guid*elines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August 2003.

The Pleasanton Garbage Service and Transfer Station is currently located about one-quarter mile to the northeast of the project site. Operations at this facility include material resource recovery from waste, waste transfer, public buyback/drop-off center. The Pleasanton Transfer Station accepts all non-hazardous solid waste. BAAQMD recommends, as a project screening distance, that residences and waste transfer stations be separated by 1 mile. However, wind flow in the area is such that wind flowing from the transfer station to the project site occurs less than 10% of the time (i.e., occurrence of northeast winds)[16]. The dominant wind flow is from the west occurring over 50 percent of the time, while wind from southerly directions occurs over 25 percent of the time. Therefore, frequent objectionable odors are unlikely if the transfer station is operated in accordance with the facility odor control plan.

The potential odor impacts were fully analyzed and mitigated in the SEIR. There are no substantial changes to the project analyzed in the SEIR, no substantial changes to the circumstances, and no new information of substantial importance that results in new significant effects, substantially more severe significant effects, or new mitigation measures or alternatives. **Thus, the potential impact is less than significant**.

Summary:

In addition to the analysis set forth in this report, there are no new or more severe significant effects, no new mitigation measures and no alternatives associated with any of the other impacts or mitigation measures analyzed in the Air Quality section of the SEIR. Thus, no additional analysis or mitigation measures are required.

[16] Based on review of wind conditions using meteorological data collected at the Pleasanton Wastewater Treatment Plant located 3.5 miles northwest of the site. The data were obtained from BAAQMD's website in Febrauary 2013: http://hank.baaqmd.gov/tec/data/#

ATTACHMENTS

Health Risk Analysis Data

CalEEMod Modeling Input and Output

Attachment 1

Figure 1. Project Site and Sensitive Receptor Locations

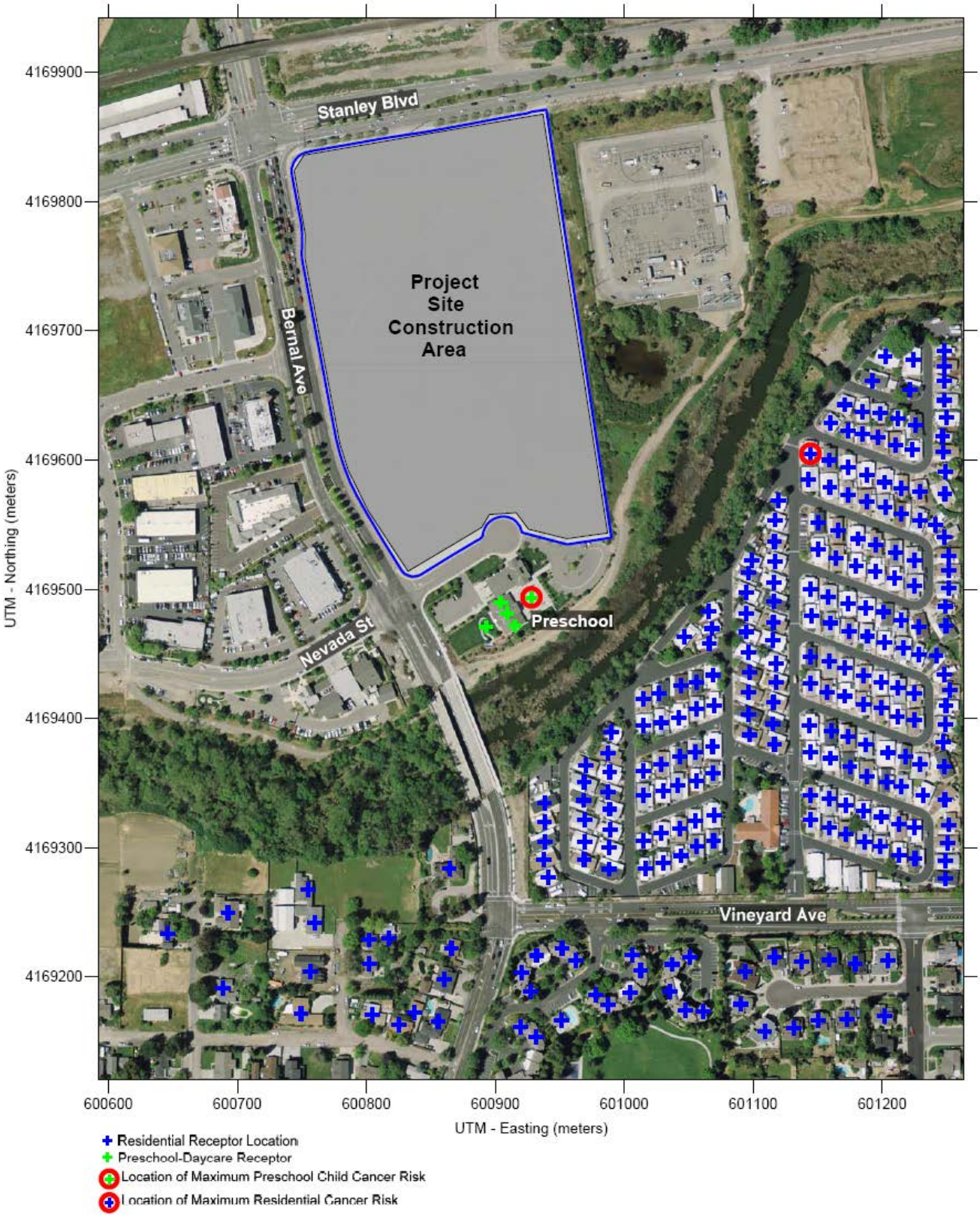

Figure 2. Project Site, Rail Line, and Air Quality Dispersion Modeling Receptor Locations

Stanley Blvd, Pleasanton, CA
DPM Modeling - Rail Line Information and DPM and PM2.5 Emission Rates

Year	Description	No. Lines	Link Width (ft)	Link Width (m)	Link Length (ft)	Link Length (miles)	Link Length (m)	Release Height (m)	No. Trains per Day	Train Travel Speed (mph)	Average Daily Emission Rate (g/mi/day)	Average Daily Emission Rate (g/day)	Link Emission Rate (g/s)	Link Emission Rate (lb/hr)
2015	Caltrain								6	40	18.6	10.4		
	Freight Trains								8	40	55.8	31.2		
	Total	**1**	**10**	**3.0**	**2,952**	**0.56**	**900**	**5.0**	**14**	**40**	**74.4**	**41.6**	**4.81E-04**	**3.82E-03**

Notes: Emission based on Emission Factors for Locomotives, USEPA 2009 (EPA-420-F-09-025)
Fuel correction factors from Offroad Modeling Change Technical memo, Changes to the Locomotive Inventory, CARB July 2006.
DPM & PM2.5 calculated as 92% of PM emissions (CARB CEIDERS PM2.5 fractions)
Trains assumed to operate for 24 hours per day

Passenger (ACE Commuter)
Passenger trains - weekday = 8
Passenger trains - weekend = 0
Passenger trains - Sat only = 0
Total Trains = 8
Annual average daily trains = 5.7
Locomotive horsepower = 3200
Locomotives per train = 1
Locomotive engine load = 0.6
Freight
Freight trains per day = 8 7 days/week
Locomotive horsepower = 4300
Locomotives per train = 1
Locomotive engine load = 0.6

Emission Factors	(g/hp-hr)
Tier 0+	0.20
Tier 2+	0.08
Tier 3	0.08
Tier 4	0.015
PM2.5 to PM ratio =	0.92

Engine Tier Level Distribution

	Passenger Trains			Freight Trains		
Engine	**2015**	**2020**	**2025**	**2015**	**2020**	**2025**
Tier 0+	20%			50%		
Tier 2+	80%	80%		50%	25%	
Tier 3						
Tier 4		20%	100%		75%	100%
Composite Emission Factor (g/hp-hr) =	***0.104***	***0.07***	***0.015***	***0.14***	***0.03***	***0.015***

	CARB Adj Factor 2010	2011+
Passenger	0.717	0.709
Freight	0.851	0.840

Stanley Blvd, Pleasanton, CA
ISCST3 Railroad DPM Risk Modeling Parameters and Maximum Cancer Risk at MEI

Receptor Information

Number of Receptors	407
Receptor Height =	1.8 m, 4,8 m & 7.9 m
Receptor distances =	grid with receptors every 10 meters

Meteorological Conditions

Pleasanton Hourly Met Data	2001-2005
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

Cancer Risk Calculation Method

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10^{-6} / AT

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
AT = Averaging time period over which exposure is averaged.
10^{-6} = Conversion factor

Inhalation Dose Factors

Exposure Type	Value[1]							
	DBR (L/kg BW-day)	A (-)	Exposure (hr/day)	Exposure (days/week)	Exposure (week/year)	EF (days/yr)	ED (Years)	AT (days)
Residential (70-Year)	302	1	24	7	50	350	70	25,550

[1] Default values recommended by OEHHA& Bay Area Air Quality Management District

Cancer Risk (per million) = Inhalation Dose x CRAF x CPF x 10^6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
CRAF = Cancer Risk Adjustment Factor

Cancer Potency Factor for DPM and Cancer Risk Adjustment Factor

Exposure Type	CPF $(mg/kg\text{-}day)^{-1}$	Cancer Risk Adjustmant Factor
Residential (70-Yr Exposure)	1.10E+00	1.7

MEI Cancer Risk Calculations

Meteorological Data Year	Maximum Annual DPM Concentration ($\mu g/m^3$)
2001-2005	0.0060
70-yr Cancer Risk per million [b]	***3.2***

Notes:
a Cancer risk (per million) calculated assuming a 70-year exposure to 2015 rail line emissions.
Maximum DPM & PM2.5 concentrations occur at the residences closest to the rail line along Stanley Rd.

Construction Schedule and Equipment

Project Name: Stanley Road - Vintage, Pleasanton, CA

Qty	Description		HP	Load Factor	Hours/day	Comments
						8/1/13 assumed start date
Demolition		**Number**	**None**			
	NA					Demolition Volumes
						0 square feet buildings
Site Preparation			**Start Date (and Duration):**	**8/1/2013 (4 days)**		Hauling (e.g., Soil) volume
	Rubber-Tired Dozers	2	358	0.4	8	Import volume = **0** cubic yards (net)
	Tractors/Loaders/Backhoes	2	75	0.37	8	Export volume = **16,000** cubic yards (net)
						Assuming all garage is exported
Grading/UG Utilities			**Start Date (and Duration):**	**8/5/2013 (40 days)**		
	Excavators	2	157	0.38	8	
	Graders	1	162	0.41	8	
	Scrapers	3	356	0.48	8	
	Tractors/Loaders/Backhoes	3	75	0.37	8	
Building Construction			**Start Date (and Duration):**	**9/1/2013 (294 days)**		
	Forklifts	2	149	0.2	8	
	Tractors/Loaders/Backhoes	2	75	0.37	8	
Paving			**Start Date (and Duration):**	**10/1/2014 (10 days)**		
	Pavers	1	89	0.42	8	
	Paving Equipment	1	82	0.36	8	
	Rollers	2	84	0.38	8	
Architectural Coating			**Start Date (and Duration):**	**7/1/2014 (80 days)**		

Stanley Blvd, Pleasanton, CA
DPM Construction Emissions for Modeling

Construction Year	Project DPM Emissions (ton/year)	Source	Source DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emisson Rate $g/s/m^2$
2013	0.102	On-Site	203.0	0.06180	7.79E-03	61,153	1.27E-07
2014	0.071	On-Site	142.0	0.04323	5.45E-03	61,153	8.91E-08

Notes:

Emissions assumed to be evenly distributed over each construction areas

hr/day =	9	(8am - 5pm)
days/yr =	365	
hours/year =	3285	

Stanley Blvd, Pleasanton, CA
Maximum DPM Cancer Risk Calculations From Construction
Beth Emek Preschool Facility

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10^{-6} / AT

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
AT = Averaging time period over which exposure is averaged.
10^{-6} = Conversion factor

Values

Parameter	Child
CPF =	1.10E+00
DBR =	581
A =	1
EF =	350
AT =	25,550

Construction Cancer Risk by Year - Student Exposure

Year	Exposure Exposure Duration (years)	Child - Exposure Information: DPM Annual Conc (ug/m3)	Child - Exposure Information: Exposure Adjust Factor*	Child Cancer Risk (per million)
1	1	0.0212	10	1.85
2	1	0.0148	10	1.30
3	1	0.000	4.75	0.00
4	1	0.000	3	0.00
5	1	0.000	3	0.00
6	1	0.000	3	0.00
7	1	0.000	3	0.00
8	1	0.000	3	0.00
9	1	0.000	3	0.00
10	1	0.000	3	0.00
11	1	0.000	3	0.00
12	1	0.000	3	0.00
13	1	0.000	3	0.00
14	1	0.000	3	0.00
15	1	0.000	3	0.00
.•	.•	.•	.•	.•
.•	.•	.•	.•	.•
.•	.•	.•	.•	.•
65	1	0.000	1	0.00
66	1	0.000	1	0.00
67	1	0.000	1	0.00
68	1	0.000	1	0.00
69	1	0.000	1	0.00
70	1	0.000	1	0.00
Total Increased Cancer Risk				**3.2**

* Assumes that children at the daycare facility less than 2 years of age for entire construction period

Stanley Blvd, Pleasanton, CA
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10^{-6} / AT

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
AT = Averaging time period over which exposure is averaged.
10^{-6} = Conversion factor

Values

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

Construction Cancer Risk by Year - Maximum Impact Receptor Location

	Exposure	Child - Exposure Information			Child	Adult - Exposure Information			Adult
	Exposure			Exposure	Cancer	Modeled		Exposure	Cancer
	Duration	DPM Conc (ug/m3)		Adjust	Risk	DPM Conc (ug/m3)		Adjust	Risk
Year	(years)	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)
1	1	2013	0.0175	10	1.53	2013	0.0175	1	0.08
2	1	2014	0.0123	10	1.08	2014	0.0123	1	0.06
3	1		0.0000	4.75	0.00		0.0000	1	0.00
4	1		0.0000	3	0.00		0.0000	1	0.000
5	1		0.0000	3	0.00		0.0000	1	0.00
6	1		0.0000	3	0.00		0.0000	1	0.00
7	1		0.0000	3	0.00		0.0000	1	0.00
8	1		0.0000	3	0.00		0.0000	1	0.00
9	1		0.0000	3	0.00		0.0000	1	0.00
10	1		0.0000	3	0.00		0.0000	1	0.00
11	1		0.0000	3	0.00		0.0000	1	0.00
12	1		0.0000	3	0.00		0.0000	1	0.00
13	1		0.0000	3	0.00		0.0000	1	0.00
14	1		0.0000	3	0.00		0.0000	1	0.00
15	1		0.0000	3	0.00		0.0000	1	0.00
16	1		0.0000	3	0.00		0.0000	1	0.00
17	1		0.0000	1.5	0.00		0.0000	1	0.00
18	1		0.0000	1	0.00		0.0000	1	0.00
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65	1		0.0000	1	0.00		0.0000	1	0.00
66	1		0.0000	1	0.00		0.0000	1	0.00
67	1		0.0000	1	0.00		0.0000	1	0.00
68	1		0.0000	1	0.00		0.0000	1	0.00
69	1		0.0000	1	0.00		0.0000	1	0.00
70	1		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk					**2.6**				**0.1**

Attachment 2

CalEEMod Version: CalEEMod.2011.1.1 Date: 10/23/2012

Stanley Boulevard, Pleasanton - 2015

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	345	Dwelling Unit
Strip Mall	35.17	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4		2.2		
		Precipitation Freq (Days)			
			63		

1.3 User Entered Comments

Land Use - Lot acreage from Project Description and site plans.

Construction Phase - Construction schedule provided by project applicant.

Off-road Equipment - No demolition.

Off-road Equipment - Load factors reduced by 33% to be consistent with OFFROAD2010 modeling methodologies.

Off-road Equipment - Load factors reduced by 33% to be consistent with OFFROAD2010 modeling methodologies.

Off-road Equipment - Load factors reduced by 33% to be consistent with OFFROAD2010 modeling methodologies.

Off-road Equipment - Load factors reduced by 33% to be consistent with OFFROAD2010 modeling methodologies.

Off-road Equipment - Load factors reduced by 33% to be consistent with OFFROAD2010 modeling methodologies.

Grading - Hauling export volume estimate provided by project applicant.

Architectural Coating - Adjusted to 150 g/L VOC in accordance with BAAQMD, Regulation 8, Rule 3.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.39	2.74	2.38	0.00	0.96	0.13	1.09	0.03	0.13	0.16	0.00	429.89	429.89	0.03	0.00	430.51
2014	3.87	1.78	3.15	0.01	0.38	0.10	0.48	0.02	0.10	0.11	0.00	501.62	501.62	0.03	0.00	502.26
Total	**4.26**	**4.52**	**5.53**	**0.01**	**1.34**	**0.23**	**1.57**	**0.05**	**0.23**	**0.27**	**0.00**	**931.51**	**931.51**	**0.06**	**0.00**	**932.77**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.39	2.74	2.38	0.00	0.08	0.13	0.20	0.03	0.13	0.16	0.00	429.89	429.89	0.03	0.00	430.51
2014	3.87	1.78	3.15	0.01	0.02	0.10	0.11	0.02	0.10	0.11	0.00	501.62	501.62	0.03	0.00	502.26
Total	**4.26**	**4.52**	**5.53**	**0.01**	**0.10**	**0.23**	**0.31**	**0.05**	**0.23**	**0.27**	**0.00**	**931.51**	**931.51**	**0.06**	**0.00**	**932.77**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.04	0.00		0.00	0.00		0.00	0.00	0.00	6.21	6.21	0.00	0.00	6.22
Total	**0.01**	**0.07**	**0.04**	**0.00**	**0.02**	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**6.21**	**6.21**	**0.00**	**0.00**	**6.22**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.20
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**	**0.20**	**0.00**	**0.00**	**0.20**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.02	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.04	0.00		0.00	0.00		0.00	0.00	0.00	6.21	6.21	0.00	0.00	6.22
Total	**0.01**	**0.07**	**0.04**	**0.00**	**0.02**	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**6.21**	**6.21**	**0.00**	**0.00**	**6.22**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.20
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**	**0.20**	**0.00**	**0.00**	**0.20**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.17	1.36	0.72	0.00		0.07	0.07		0.07	0.07	0.00	141.97	141.97	0.01	0.00	142.26
Total	**0.17**	**1.36**	**0.72**	**0.00**	**0.04**	**0.07**	**0.11**	**0.00**	**0.07**	**0.07**	**0.00**	**141.97**	**141.97**	**0.01**	**0.00**	**142.26**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.05	0.53	0.25	0.00	0.74	0.02	0.76	0.00	0.02	0.02	0.00	75.01	75.01	0.00	0.00	75.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.60
Total	**0.05**	**0.53**	**0.29**	**0.00**	**0.75**	**0.02**	**0.77**	**0.00**	**0.02**	**0.02**	**0.00**	**79.60**	**79.60**	**0.00**	**0.00**	**79.65**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.17	1.36	0.72	0.00		0.07	0.07		0.07	0.07	0.00	141.97	141.97	0.01	0.00	142.26
Total	**0.17**	**1.36**	**0.72**	**0.00**	**0.04**	**0.07**	**0.11**	**0.00**	**0.07**	**0.07**	**0.00**	**141.97**	**141.97**	**0.01**	**0.00**	**142.26**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.05	0.53	0.25	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	75.01	75.01	0.00	0.00	75.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59	4.59	0.00	0.00	4.60
Total	**0.05**	**0.53**	**0.29**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.02**	**0.00**	**79.60**	**79.60**	**0.00**	**0.00**	**79.65**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.38	0.30	0.00		0.03	0.03		0.03	0.03	0.00	42.73	42.73	0.00	0.00	42.82
Total	**0.05**	**0.38**	**0.30**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**42.73**	**42.73**	**0.00**	**0.00**	**42.82**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.31	0.18	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	46.28	46.28	0.00	0.00	46.30
Worker	0.09	0.09	0.86	0.00	0.14	0.00	0.14	0.01	0.00	0.01	0.00	112.90	112.90	0.01	0.00	113.06
Total	**0.12**	**0.40**	**1.04**	**0.00**	**0.15**	**0.01**	**0.16**	**0.01**	**0.01**	**0.02**	**0.00**	**159.18**	**159.18**	**0.01**	**0.00**	**159.36**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.38	0.30	0.00		0.03	0.03		0.03	0.03	0.00	42.73	42.73	0.00	0.00	42.82
Total	**0.05**	**0.38**	**0.30**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**42.73**	**42.73**	**0.00**	**0.00**	**42.82**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.31	0.18	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	46.28	46.28	0.00	0.00	46.30
Worker	0.09	0.09	0.86	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	112.90	112.90	0.01	0.00	113.06
Total	**0.12**	**0.40**	**1.04**	**0.00**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.00**	**159.18**	**159.18**	**0.01**	**0.00**	**159.36**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.84	0.71	0.00		0.06	0.06		0.06	0.06	0.00	101.67	101.67	0.01	0.00	101.87
Total	**0.12**	**0.84**	**0.71**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**101.67**	**101.67**	**0.01**	**0.00**	**101.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.67	0.40	0.00	0.03	0.02	0.05	0.00	0.02	0.02	0.00	110.19	110.19	0.00	0.00	110.25
Worker	0.19	0.19	1.85	0.00	0.32	0.01	0.33	0.02	0.01	0.03	0.00	263.00	263.00	0.02	0.00	263.34
Total	**0.25**	**0.86**	**2.25**	**0.00**	**0.35**	**0.03**	**0.38**	**0.02**	**0.03**	**0.05**	**0.00**	**373.19**	**373.19**	**0.02**	**0.00**	**373.59**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.84	0.71	0.00		0.06	0.06		0.06	0.06	0.00	101.67	101.67	0.01	0.00	101.87
Total	**0.12**	**0.84**	**0.71**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**101.67**	**101.67**	**0.01**	**0.00**	**101.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.67	0.40	0.00	0.00	0.02	0.02	0.00	0.02	0.02	0.00	110.19	110.19	0.00	0.00	110.25
Worker	0.19	0.19	1.85	0.00	0.02	0.01	0.03	0.02	0.01	0.03	0.00	263.00	263.00	0.02	0.00	263.34
Total	**0.25**	**0.86**	**2.25**	**0.00**	**0.02**	**0.03**	**0.05**	**0.02**	**0.03**	**0.05**	**0.00**	**373.19**	**373.19**	**0.02**	**0.00**	**373.59**

3.6 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**3.48**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.14	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	20.33	20.33	0.00	0.00	20.35
Total	**0.01**	**0.01**	**0.14**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**20.33**	**20.33**	**0.00**	**0.00**	**20.35**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**3.48**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.33	20.33	0.00	0.00	20.35
Total	**0.01**	**0.01**	**0.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**20.33**	**20.33**	**0.00**	**0.00**	**20.35**

3.7 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	5.94	5.94	0.00	0.00	5.96
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.07**	**0.05**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**5.94**	**5.94**	**0.00**	**0.00**	**5.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.49	0.00	0.00	0.49

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.49**	**0.49**	**0.00**	**0.00**	**0.49**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	5.94	5.94	0.00	0.00	5.96
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.07**	**0.05**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**5.94**	**5.94**	**0.00**	**0.00**	**5.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.49	0.00	0.00	0.49
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.49**	**0.49**	**0.00**	**0.00**	**0.49**