MEMORANDUM

DATE March 24, 2020

TO Gian Martire, Senior Planner, City of Cupertino

FROM Terri McCracken, Associate Principal, and Josh Carman, Senior Associate, PlaceWorks

SUBJECT Cupertino De Anza Hotel Project Initial Study and Mitigated Negative Declaration Response to Comments Memo for City Council

INTRODUCTION

The City of Cupertino issued a Notice of Intent to adopt a Mitigated Negative Declaration for the De Anza Hotel Project on June 28, 2019. This started a 30-day public comment period for agencies and the public to submit comments on the Public Review Draft Initial Study and Mitigated Negative Declaration (IS/MND) dated July 2, 2019. The comment period ended on July 29, 2019. No comments were received during the 30-day public comment period.

On December 2, 2019, during the noticing period for the December 10, 2019 Planning Commission meeting, four late comment letters and emails were received by the City. Following the public noticing of City Council meeting scheduled for January 21, 2020, two late comment letters were received by the City. The first was received on January 20, 2020 and the second was received on January 21, 2020.

Although CEQA and the CEQA Guidelines do not require a Lead Agency to prepare written responses to comments received on an IS/MND, the City prepared written responses to the late comments to provide a comprehensive evaluation of the proposed project. A Response to Comments Memo dated December 4, 2019 was submitted to the Planning Commission at its December 10, 2019 meeting as Attachment 11 to the Staff Report, and a second Response to Comments Memo was submitted to the City Council at its March 3, 2020 meeting as Attachment L to the Staff Report.

Following the City Council's approval of the project and IS/MND on March 3, 2020 and the posting of the Notice of Determination on March 5, 2020, a Reconsideration Petition was submitted to the City on March 13, 2020. This Memorandum provides responses, below, to the comments in the letter submitted as part of the Reconsideration Petition raising environmental issues on the IS/MND. The Reconsideration Petition is attached in its original format.

The comments and responses discussed in this Response to Comments Memo do not require any "substantial revisions" to the IS/MND as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15073.5(b). Furthermore, there is not substantial evidence in light of the whole record that the project may have a significant effect on the environment which cannot be mitigated or avoided. The following responses to comments demonstrate that the MND is the appropriate CEQA document for the proposed project, and that the preparation of an Enviromental Impact Report is not required pursuant to CEQA and the CEQA Guidelines (see CEQA Guidelines Section 15073.5(d)).

1625 Shattuck Avenue, Suite 300 | Berkeley, California 94709 | 510.848.3815 | PlaceWorks.com

Attachment:

Reconsideration Petition: Michael R. Lozeau, Lozeau Drury LLP (March 20, 2020)

RESPONSES TO COMMENTS FOR THE RECONSIDERATION PETITION

TABLE 1 RESPONSES TO COMMENTS ON THE PUBLIC REVIEW DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Number	Comment/Response
Michael R. Lozeau, Lozeau Drury LLP	
Comment 1	I am writing on behalf of the Laborers International Union of North America, Local Union No. 270 ("LIUNA") and its members living and/or working in or around the City of Cupertino ("City") regarding the City Council 's decision of March 3, 2020 to adopt Resolution No. 20-005 adopting the Mitigated Negative Declaration, mitigation measures, and a Mitigation Monitoring and Reporting Program for the De Anza Hotel Project ("Project") (GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03). This petition for reconsideration is filed pursuant to Municipal Code section 2.08.096, is timely filed within 10 days of the date of the mailing of the notice of decision, and is accompanied by the required filing fee of $319.40. As detailed below, LIUNA believes the City Council abused its discretion by not proceeding in a manner required by law and therefore respectfully requests that the City Council reconsider its decision to adopt Resolution No. 20-005 adopting the MND.
Response 1	The comment is noted.
Comment 2	LIUNA previously submitted comments to the City pointing out the MND's lack of disclosure and analysis for several important issues, including potential significant health impacts on future employees from formaldehyde emissions that will be emitted by finishing materials used to construct the interior of the hotel as well as the reasonably foreseeable emissions of formaldehyde from furniture and other materials that will be brought into the hotel rooms *(see* Indoor Environmental Engineering Comment dated January 16, 2020 ("Offermann Comment")), potential mitigation measures for impacts to birds from avian strikes, errors in the air pollution modeling and potential significant impacts from construction and operation emissions and greenhouse gas emissions *(see* environmental consultant SWAPE comments dated January 16, 2020), and potential noise impacts and improper reliance on an operational noise mitigation measure *(see* noise expert Derek Watry's comments dated January 15, 2020). Despite the additional conditions of approval for the Project added by the City Council on the Project, and after reviewing the Project, MND, and the City's response to our comments, a "fair argument" remains that the Project may have unmitigated adverse environmental impacts. Therefore, CEQA requires that the City prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq. By adopting the MND, the City failed to proceed in a manner required by law.
Response 2	The commenter's description of their previous comments on the IS/MND are noted. With respect to the comments on potential significant health impacts from formaldehyde, avian air strikes, air quality, and greenhouse gas emissions, please see the Response to Comment Memo that was submitted to the City Council at its March 3, 2020 meeting as Attachment L to the Staff Report.

TABLE 1 RESPONSES TO COMMENTS ON THE PUBLIC REVIEW DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Number	Comment/Response
	Responses to the comments on the noise analysis are provided in Responses to Comments 4 and 5, below. The following responses explain why the comments do not provide substantial evidence supporting a fair argument that the proposed project may have a significant effect on the environment requiring the preparation of an EIR. The responses to comments demonstrate that the MND is the appropriate CEQA document for the proposed project, and that the preparation of an EIR is not required pursuant to CEQA and the CEQA Guidelines (see CEQA Guidelines Section 15073.5(d)).
Comment 3	**I. LEGAL STANDARDS** As the California Supreme Court has held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." *Communities for a Better Env 't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 *(CBE v. SCAQMD)* (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504-505). "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." Pub. Res. Code ("PRC") § 21068; *see also* 14 CCR § 15382. An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial. *" No Oil, Inc.,* 13 Cal.3d at 83. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env 't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 *(CBE v. CRA).* The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield (2004)* 124 Cal.App.4th 1184, 1214 *(Bakersfield Citizens); Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." *Bakersfield Citizens,* 124 Cal.App.4th at 1220. The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process "protects not only the environment but also informed selfgovernment." *Pocket Protectors,* 124 Cal.App.4th at 927. An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." PRC § 21080(d); see also *Pocket Protectors,* 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 CCR § 153 71), only if there is not even a "fair argument" that the project will have a significant environmental effect. PRC, §§ 21100, 21064. Since "[t]he adoption of a negative declaration. .. has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR] ," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

TABLE 1 RESPONSES TO COMMENTS ON THE PUBLIC REVIEW DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Number	Comment/Response
	Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and ... there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." PRC § § 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, "may" means a reasonable possibility of a significant effect on the environment. PRC§§ 21082.2(a), 21100, 2115l(a); *Pocket Protectors,* 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05. Under the "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect-even if contrary evidence exists to suppo11 the agency's decision. 14 CCR § I 5064(t)(l); *Pocket Protectors,* 124 Cal.App.4th at 931 ; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51 ; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors,* 124 Cal.App.4th at 928. The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains: This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative dete1minations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument. Kostka & Zishcke, *Practice Under CEQA,* §6.29, pp. 273-274. The Courts have explained that " it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with *a preference for resolving doubts in favor of environmental review." Pocket Protectors,* 124 Cal.App.4th at 928 (emphasis in original).
Response 3	The commenter's description of CEQA, the CEQA Guidelines, and case law is noted.
Comment 4	II. THERE IS SUBSTANTIAL EVIDENCE OF A FAIR ARGUMENT THAT THE PROJECT MAY HAVE A SIGNIFICANT NOISE IMPACT Noise expert Derek Watry reviewed the proposed Project and relevant documents regarding the Project's noise impacts, and concluded that the MND improperly analyzed construction noise levels. Mr. Watry concludes that when analyzed properly, construction noise levels during the five stages of the Project construction would create a significant noise impact. Derek Watry, Review and Comment on Noise Analysis ("Noise Analysis"), January 15, 2020.

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	The Cupertino Municipal Code ("CMC") section 10.48.053 sets the quantitative requirements for construction noise as: " ... construction activities [may] not exceed 80 dBA at the nearest affected property or individual equipment items do not exceed 87 dBA at 25 feet. Only one of these two criteria must be met." The IS/MND uses the first of these two options and presents estimates of construction noise at the two nearest property lines shared with noise sensitive receptors. However, as Mr. Watry points out, "the [IS/MND] treats the 80 dBA limit as a limit for the average noise level." Noise Analysis, p. 1. There is no indication in CMC section 10.48.053 that the code intended this limit to be for the average noise level limit, and " it is more likely that the 80 dBA limit is intended to be a maximum for noise levels from the construction activities." *Id.* In the City's response to Mr. Watry's comments, the City stated it interprets the City's Municipal Code as an average noise level limit and not as a maximum noise limit. Regardless of whether or not the City and its staff interpret the City's Municipal Code as an average noise level limit and not a maximum noise limit, Mr. Watry's analysis provides substantial evidence of a fair argument that the Project's construction will create significant noise impacts on nearby properties and should be analyzed in an EIR.
Response 4	The commenter provides no substantial evidence to support their opinion. The commenter's interpretation of the Cupertino Municipal Code (CMC) is based on their own assumptions of what is and what isn't "likely," what they "believe," and is based on speculation, not substantial evidence. The analysis in the IS/MND is based on scientific and factual data, which has been reviewed by the Lead Agency and reflects its historical practices, independent judgment, and conclusions. As discussed below, the City's application of CMC Section 10.48.053 in the IS/MND is supported by substantial evidence because the City has interpreted the Municipal Code the same way in the past for similar projects and because it is consistent with guidance from the Federal Transit Administration (FTA). Additionally, as discussed below, the noise evaluation in the IS/MND is conservative because it assumes that all construction equipment would operate simultaneously. As the commenter notes, calculating the energy average noise level based on the center of the project site is "reasonable because the equipment will, in the long-term, move all around the site and will, on average, be in the center." Exactly as the commenter notes, and as explained in the IS/MND noise analysis on page 4-59, "noise levels from project-related construction activities were calculated from the simultaneous use of all applicable construction equipment at spatially averaged distances (i.e., from the acoustical center of the general construction site) to the property line of the nearest receptors. Although construction may occur across the entire construction site, the area around the center of construction activities best represents the potential average construction-related noise levels at the various sensitive receptors." This would be true of the loudest phases such as site preparation, grading, and demolition (including demolition of existing pavement) in that equipment would continually be moving around the project site. In addition, the noise analysis in the IS/MND was conservative in that "project-related construction activities were calculated from the simultaneous use of *all* applicable construction equipment" [italics added for emphasis] (see page 4-59 of the IS/MND). In reality, on any given day, certain pieces of equipment are likely to operate during a portion of the workday and then remain off while other equipment does work.

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	Noise experts from PlaceWorks with over 30 years of preparing similar noise impact analyses, together with the City, determined that because noise can vary based on many factors, the construction noise analysis is most accurately described based on an energy average rather than a maximum. The use of an energy average, or L_{eq} noise level metric, for environmental review has historically been applied in the City of Cupertino. This was recently demonstrated in the certified EIR for The Forum Senior Community Update (State Clearinghouse No. 2017052037) and the approved IS/MND for the Village Hotel (State Clearinghouse No. 2018112025). The construction noise analysis applied 80 dBA L_{eq} as the threshold to analyze temporary construction noise impacts. In both cases, construction would occur in closer proximity to sensitive receptors than the proposed De Anza Hotel. Furthermore, use of 80 dBA L_{eq} is consistent with guidance from the FTA, which recommends a daytime construction noise limit of 80 dBA L_{eq}(8 hr) for residential uses (Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual*. Section 7, *Noise and Vibration During Construction*). This is the L_{eq} noise level over an 8-hour period, which is comparable to a typical construction workday. It should be noted that the FTA recommends a higher limit of 85 dBA L_{eq}(8 hr) for commercial uses (such as the Cupertino Hotel to the south). The noise analysis in the IS/MND is also conservative in that, while construction noise is analyzed at the Cupertino Hotel property line to the south, there is over 50 feet of parking lot beyond the property line before reaching the hotel itself. The only active outdoor use area at the Cupertino Hotel is the courtyard/pool in the center of that site, which would be substantially shielded by the Cupertino Hotel building. Regardless of the interpretation of the City’s noise regulations, the IS/MND finds noise impacts during construction to be significant and requires mitigation to reduce the impact to a less-than-significant level. See Mitigation Measure NOISE-1 starting on page 4-60 of the IS/MND. Implementation of Mitigation Measure NOISE-1 would ensure compliance with the City’s noise limits during construction and would reduce the impact to a less-than-significant level; therefore, preparation of an EIR is not required.
Comment 5	Mr. Watry also commented on the MND's failure to adequately evaluate the Project's traffic noise levels. For the traffic noise analysis, the MND uses a relative, "audible" threshold of significance and "only ' audible ' changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant." IS/MND, p. 4-58. Mr. Watry states that "[t]he fundamental problem with using a relative threshold of significance, e.g., a change of 3 dBA or greater, is that, over time, there will effectively be no limit." Noise Analysis, p. 3. In order to keep noise levels from increasing continually without limit over time, Mr. Watry concludes that absolute criteria should be used as well. *Id.,* p. 4. For this project, an appropriate source for absolute criteria is the *Cupertino General Plan - Community Vision 2015-2040.* Chapter 7, Health and Safety Element, contains Land Use Compatibility for Community Noise Environments, cast in terms of either the Day-Night Equivalent Level (L_{dn}) or the Community Noise Equivalent Level (CNEL), both 24-hour weighted average noise levels.

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	[General Plan, Figure HS-8]. For various types of land uses, Figure HS-8 indicates if a particular noise exposure is "normally acceptable", "conditionally acceptable", "normally unacceptable", or "clearly unacceptable". A very reasonable, absolute threshold of significance would be if the noise level changed from one classification to another, regardless of the amount of the increase. *Id.* Mr. Watry's absolute criteria analysis would necessarily be based on measurements of the existing noise environment around the Project site, which the MND did not do in its noise analysis.
Response 5	The commenter incorrectly asserts that, in addition to the relative traffic noise increase threshold of 3 dBA, the Land Use Compatibility for Community Noise Environments standards from the Cupertino General Plan should be used and that, if the noise level changed from one classification to another, an absolute threshold should be used; i.e., from conditionally acceptable to normally unacceptable. The Land Use Compatibility for Community Noise Environments are intended for siting new sensitive uses, such as the proposed new hotel, and whether the site is a compatible environment for the new use. These General Plan Standards are not intended to assess the impacts of the hotel on the surrounding environment for purposes of CEQA; therefore, they are not appropriate standards for measuring the impacts of the project in the IS/MND. As explained in the Chapter 7, Health and Safety (HS) Element of the General Plan on page HS-22, "noise compatibility may be achieved by avoiding the location of conflicting land uses adjacent to one another." The proposed project is a hotel that is proposed to be located adjacent to another hotel, which are compatible land uses. In addition, as discussed in the IS/MND noise analysis on page 4-63 (details were included in Appendix C), the permanent noise level increase due to the proposed project was estimated to be 0.1 dBA on study roadway segments. This increase is imperceptible in an outdoor environment in terms of community noise exposure. The projected cumulative traffic noise increase (cumulative plus project traffic conditions compared with existing conditions) of 2.0 dBA would be below the established threshold of 3 dBA.
Comment 6	III. CONCLUSION Mr. Watry's expert evidence provides substantial evidence of a fair argument of a significant environmental impact. The City Council should therefore not have adopted the MND and should have instead required that an EIR be prepared for the Project. The City Council's failure to do so resulted in its abuse of discretion by failing to proceed in a manner required by law.
Response 6	The comment is noted. Responses to this assertion are provided above and in the February 20, 2020 Response to Comments Memo submitted to the City Council. The responses demonstrate that the MND is the appropriate CEQA document for the proposed project, and that the preparation of an EIR is not required pursuant to CEQA and the CEQA Guidelines (see CEQA Guidelines Section 15073.5(d)).

TABLE 1 RESPONSES TO COMMENTS ON THE PUBLIC REVIEW DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Number	Comment/Response
Comment 7	This is a copy of the commenter's January 20, 2020 letter provided the day before the City Council meeting on January 21, 2020.
Response 7	Please see the February 20, 2020 Response to Comments Memo submitted to the City Council at its March 3, 2020 meeting as Attachment L to the Staff Report.

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ATTACHMENT:
RECONSIDERATION PETITION: MICHAEL R. LOZEAU,
LOZEAU DRURY LLP
MARCH 20, 2020

CUPERTINO

City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014
(408) 777-3223

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RECONSIDERATION PETITON

NOTICE: Reconsideration petitions are only accepted for adjudicatory matters that are quasi-judicial decisions by the City Council. The reconsideration petition is subject to the requirements of and must comply with section 2.08.096 of the Cupertino Municipal Code, available in the City Clerk's office or online at http://www.amlegal.com/cupertino_ca/. Please review this form carefully and provide a detailed explanation for each item. Failure to meet the requirements of section 2.08.096 may result in rejection of the reconsideration petition.

1. **Project for which you are requesting reconsideration:**
   Application No.: GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03
   Applicant(s) Name: Sherly Kwok (De Anza Properties)

3. **Contact information for party requesting reconsideration:**

Name:	Michael R. Lozeau, Paige Fennie, Lozeau Drury LLP
Address:	1939 Harrison Street, Suite 150, Oakland, CA 94612
Phone:	(510) 836-4200
Email:	michael@lozeaudrury.com, paige@lozeaudrury.com

4. **Date of Council meeting considering the project for which you are requesting reconsideration**: March 3, 2020
   Reconsideration petitions must be filed within ten (10) calendar days of the date of the Clerk's notice.

5. **Details of grounds for reconsideration (Cupertino Municipal Code Section 2.08.096).** A petition for reconsideration must specify, in detail, each and every ground for reconsideration. Failure to specify the particular ground(s) for reconsideration will preclude any omitted ground(s) from being raised or litigated in a subsequent judicial proceeding.
   In addition, the grounds for reconsideration are limited to the criteria listed below. Failure to meet these grounds may result in rejection of the petition for reconsideration. Check all grounds that apply and provide detailed explanations

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BY HAND DELIVERY

March 13, 2020

Mayor Steven Scharf
Vice Mayor Darcy Paul
Councilmember Rod Sinks
Councilmember Liang Chao
Councilmember Jon Willey
Lauren Sapudar, Executive Assistant to City Council
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Re: Petition for Reconsideration for the De Anza Hotel Project (GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03)

Dear Mayor Scharf, Honorable City Council Members, and Ms. Squarcia:

I am writing on behalf of the Laborers International Union of North America, Local Union No. 270 ("LIUNA") and its members living and/or working in or around the City of Cupertino ("City") regarding the City Council's decision of March 3, 2020 to adopt Resolution No. 20-005 adopting the Mitigated Negative Declaration, mitigation measures, and a Mitigation Monitoring and Reporting Program for the De Anza Hotel Project ("Project") (GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03). This petition for reconsideration is filed pursuant to Municipal Code section 2.08.096, is timely filed within 10 days of the date of the mailing of the notice of decision, and is accompanied by the required filing fee of $319.40. As detailed below, LIUNA believes the City Council abused its discretion by not proceeding in a manner required by law and therefore respectfully requests that the City Council reconsider its decision to adopt Resolution No. 20-005 adopting the MND.

LIUNA previously submitted comments to the City pointing out the MND's lack of disclosure and analysis for several important issues, including potential significant health impacts on future employees from formaldehyde emissions that will be emitted by finishing materials used to construct the interior of the hotel as well as the reasonably foreseeable emissions of formaldehyde from furniture and other materials that will be brought into the hotel rooms (*see* Indoor Environmental Engineering Comment dated January 16, 2020 ("Offermann Comment")), potential mitigation measures for impacts to birds from avian strikes, errors in the air pollution modeling and potential significant impacts from construction and operation emissions and greenhouse gas emissions (*see* environmental consultant SWAPE comments dated January 16, 2020), and potential noise impacts and improper reliance on an operational noise mitigation measure (*see* noise expert Derek Watry's comments dated January 15, 2020).

Despite the additional conditions of approval for the Project added by the City Council on the Project, and after reviewing the Project, MND, and the City's response to our comments, a "fair argument" remains that the Project may have unmitigated adverse environmental impacts. Therefore, CEQA requires that the City prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq. By adopting the MND, the City failed to proceed in a manner required by law.

I. LEGAL STANDARDS

As the California Supreme Court has held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." *Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 (*CBE v. SCAQMD*) (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." Pub. Res. Code ("PRC") § 21068; *see also* 14 CCR § 15382. An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." *No Oil, Inc.*, 13 Cal.3d at 83. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 (*CBE v. CRA*).

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield (*2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." *Bakersfield Citizens*, 124 Cal.App.4th at 1220. The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process "protects not only the environment but also informed self-government." *Pocket Protectors*, 124 Cal.App.4th at 927.

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." PRC § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 CCR § 15371), only if there is not even a "fair argument" that the project will have a significant environmental effect. PRC, §§ 21100, 21064. Since "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and…there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." PRC §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, "may" means a reasonable possibility of a significant effect on the environment. PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–05.

Under the "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency's decision. 14 CCR § 15064(f)(1); *Pocket Protectors*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors*, 124 Cal.App.4th at 928.

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

Kostka & Zishcke, *Practice Under CEQA*, §6.29, pp. 273-274. The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with *a preference for resolving doubts in favor of environmental review*." *Pocket Protectors*, 124 Cal.App.4th at 928 (emphasis in original).

II. THERE IS SUBSTANTIAL EVIDENCE OF A FAIR ARGUMENT THAT THE PROJECT MAY HAVE A SIGNIFICANT NOISE IMPACT

Noise expert Derek Watry reviewed the proposed Project and relevant documents regarding the Project's noise impacts, and concluded that the MND improperly analyzed construction noise levels. Mr. Watry concludes that when analyzed properly, construction noise levels during the five stages of the Project construction would create a significant noise impact. Derek Watry, Review and Comment on Noise Analysis ("Noise Analysis"), January 15, 2020.

The Cupertino Municipal Code ("CMC") section 10.48.053 sets the quantitative requirements for construction noise as: ". . . construction activities [may] not exceed 80 dBA at the nearest affected property or individual equipment items do not exceed 87 dBA at 25 feet. Only one of these two criteria must be met." The IS/MND uses the first of these two options and presents estimates of construction noise at the two nearest property lines shared with noise-sensitive receptors. However, as Mr. Watry points out, "the [IS/MND] treats the 80 dBA limit as a limit for the average noise level." Noise Analysis, p. 1. There is no indication in CMC section 10.48.053 that the code intended this limit to be for the average noise level limit, and "it is more likely that the 80 dBA limit is intended to be a maximum for noise levels from the construction activities." *Id*. In the City's response to Mr. Watry's comments, the City stated it interprets the City's Municipal Code as an average noise level limit and not as a maximum noise limit. Regardless of whether or not the City and its staff interpret the City's Municipal Code as an average noise level limit and not a maximum noise limit, Mr. Watry's analysis provides substantial evidence of a fair argument that the Project's construction will create significant noise impacts on nearby properties and should be analyzed in an EIR.

Mr. Watry also commented on the MND's failure to adequately evaluate the Project's traffic noise levels. For the traffic noise analysis, the MND uses a relative, "audible" threshold of significance and "only 'audible' changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant." IS/MND, p. 4-58. Mr. Watry states that "[t]he fundamental problem with using a relative threshold of significance, e.g., a change of 3 dBA or greater, is that, over time, there will effectively be no limit." Noise Analysis, p. 3. In order to keep noise levels from increasing continually without limit over time, Mr. Watry concludes that absolute criteria should be used as well. *Id*., p. 4.

> For this project, an appropriate source for absolute criteria is the *Cupertino General Plan – Community Vision 2015-2040*. Chapter 7, Health and Safety Element, contains Land Use Compatibility for Community Noise Environments, cast in terms of either the Day-Night Equivalent Level (L_{dn}) or the Community Noise Equivalent Level (CNEL), both 24-hour weighted average noise levels.

> [General Plan, Figure HS-8]. For various types of land uses, Figure HS-8 indicates if a particular noise exposure is "normally acceptable", "conditionally acceptable", "normally unacceptable", or "clearly unacceptable". A very reasonable, absolute threshold of significance would be if the noise level changed from one classification to another, regardless of the amount of the increase.

Id. Mr. Watry's absolute criteria analysis would necessarily be based on measurements of the existing noise environment around the Project site, which the MND did not do in its noise analysis.

III. CONCLUSION

Mr. Watry's expert evidence provides substantial evidence of a fair argument of a significant environmental impact. The City Council should therefore not have adopted the MND and should have instead required that an EIR be prepared for the Project. The City Council's failure to do so resulted in its abuse of discretion by failing to proceed in a manner required by law.

Sincerely,

Michael R. Lozeau
Paige Fennie
Lozeau | Drury LLP

of the facts supporting each ground for reconsideration (provide supporting documentation and attach additional sheets if necessary):

☐ An offer of new relevant evidence which, in the exercise of reasonable diligence, could not have been produced at any earlier city hearing.
Explanation of new evidence and why it could not have been produced earlier:

☐ An offer of relevant evidence which was improperly excluded at any prior city hearing.
Explain relevant evidence and how, when it was excluded at a prior hearing:

☐ Proof of facts which demonstrate that the City Council proceeded without, or in excess of its, jurisdiction.
Explain facts and how those facts show that the Council operated outside its jurisdiction:

☐ Proof of facts which demonstrate that the City Council failed to provide a fair hearing.
Explain facts and how those facts demonstrate failure to provide a fair hearing:

☒ Proof of facts which demonstrate that the City Council abused its discretion by:

- (a) Not preceding in a manner required by law; and/or
- (b) Rendering a decision which was not supported by findings of fact; and/or
- (c) Rendering a decision in which the findings of fact were not supported by the evidence.

Explain facts and how those facts demonstrate abuse of discretion related to items (a)-(c): Please see attached letter explaining the facts which demonstrate an abuse of discretion related to items (a)-(c).

6. Signature(s) Michael R Bozen

Please complete form, include reconsideration fee of $319.40 pursuant to Resolution No, 19-038 payable to City of Cupertino and return to the attention of the City Clerk, 10300 Torre Avenue, Cupertino, (408) 777-3223.

Acceptance of a petition by the City Clerk is for timeliness purposes only and does not constitute a determination that the petition meets the requirements for reconsideration under section 2.08.096 of the Municipal Code. The City reserves the right to review petitions after submission and reject those that do not meet the criteria set forth in Cupertino Municipal Code Section 2.08.096.

Exhibit A

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January 20, 2020

Via E-Mail and Hand Delivery

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Vice Mayor Darcy Paul
Councilmember Rod Sinks
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Re: Comment on the De Anza Hotel Project (GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03)

Dear Mayor Scharf, Honorable City Council Members, Ms. Schmidt and Mr. Martire:

I am writing on behalf of the Laborers International Union of North America, Local Union No. 270 ("LIUNA") and its members regarding the Initial Study and Mitigated Negative Declaration (collectively the "MND") prepared for the De Anza Hotel Project ("Project") (GPA-2018-01, DP-2018-01, ASA-2018-02, DA-2018-01, U-2018-02, EA-2018-03) for Applicant Sherly Kwok of De Anza Properties ("Applicant"), including all actions related or referring to the proposed demolition of the existing commercial building and development of a hotel. The Project site is located at 10931 North De Anza Boulevard in the City of Cupertino, California. APN: 326-10-061.

On August 1, 2019, our office submitted a CEQA and Land Use Notice Request on behalf of LIUNA to Mr. Gian Paolo Martire, Mr. Benjamin Fu, and Ms. Grace Schmidt requesting that the City of Cupertino ("City") send us notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City and any of its subdivisions on the Project. *See* Exhibit D. We did not receive notice of the

Planning Commission meeting held on December 10, 2019 at which the Planning Commission considered recommending the Mitigated Negative Declaration ("MND") to City Council for adoption. These comments would have been submitted at that meeting and we would have attended the meeting if we had received notice as requested.

After reviewing the Project and MND, it is evident that the MND is inadequate and fails as an informational document because there is a "fair argument" that the Project may have unmitigated adverse environmental impacts. Therefore, CEQA requires that the City of Cupertino prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq.

This comment has been prepared with the assistance of Certified Industrial Hygienist Francis Offerman, PE, CIH, environmental consulting firm SWAPE, and noise expert Derek Watry. Mr. Offermann's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference and entirety. SWAPE's comment and curriculum vitae are attached as Exhibit B hereto and are incorporated herein by reference in their entirety. Mr. Watry's comment and curriculum vitae are attached as Exhibit C hereto and are incorporated herein by reference in their entirety.

I. PROJECT BACKGROUND

Applicant proposes to demolish the existing commercial building on the Project site and construct a seven-story hotel with up to 156 rooms, a rooftop terrace, lounge, bar, ground-floor conference facilities, a restaurant, and four levels of below-grade parking.

II. STANDING

Members of LIUNA Local 270 live, work, and/or recreate in the vicinity of the Project Site. These members will suffer the impacts of a poorly executed or inadequately mitigated Project, just as would the members of any nearby homeowners association, community group or environmental group. LIUNA Local 270 members live and work in areas that will be affected by traffic, noise, air pollution, wildlife impacts and greenhouse gas ("GHG") emissions generated by the Project. Therefore, LIUNA Local 270 and its members have a direct interest in ensuring that the Project is adequately analyzed and that its environmental and public health impacts are mitigated to the fullest extent possible.

III. LEGAL STANDARDS

As the California Supreme Court has held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." *Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 (*CBE v. SCAQMD*) (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." Pub. Res. Code ("PRC") § 21068; *see also* 14 CCR § 15382. An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." *No Oil, Inc.*, 13 Cal.3d at 83. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 (*CBE v. CRA*).

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield (*2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." *Bakersfield Citizens*, 124 Cal.App.4th at 1220. The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process "protects not only the environment but also informed self-government." *Pocket Protectors*, 124 Cal.App.4th at 927.

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." PRC § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 CCR § 15371), only if there is not even a "fair argument" that the project will have a significant environmental effect. PRC, §§ 21100, 21064. Since "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

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The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

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CEQA requires that an environmental document include a description of the project's environmental setting or "baseline." CEQA Guidelines § 15063(d)(2). The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *CBE v. SCAQMD*, 48 Cal.4th at 321. CEQA Guidelines section 15125(a) states, in pertinent part, that a lead agency's environmental review under CEQA:

> …must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See Save Our Peninsula Committee v. County of Monterey (2001) 87 Cal.App.4th 99, 124–25 ("*Save Our Peninsula*").) As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. *Id.* at 121–23.

III. DISCUSSION

A. There is Substantial Evidence of a Fair Argument that the Project Will Have a Significant Health Risk Impact from its Indoor Air Quality Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has conducted a review of the proposed Project and relevant documents regarding the Project's indoor air emissions. Indoor Environmental Engineering Comments (Jan. 16, 2020) (Exhibit A). Mr. Offermann concludes that it is likely that the Project will expose future hotel employees of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. *See* attached CV.

Mr. Offermann explains that many composite wood products used in modern hotel construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." Ex. A, pp. 2-3.

Formaldehyde is a known human carcinogen. Mr. Offermann states that there is a fair argument that the employees of the Project are expected to experience significant work-day exposures. *Id.* p. 4. This exposure of employees would result in "significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels." *Id.* Assuming they work eight hour days, five days per week, an employee would be exposed to a cancer risk of approximately 16.4 per million, assuming all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. *Id.* This is more than the Bay Area Air Quality Management District (BAAQMD) CEQA significance threshold for airborne cancer risk of 10 per million. *Id.*

Mr. Offermann also notes that the high cancer risk that may be posed by the Project's indoor air emissions likely will be exacerbated by the additional cancer risk that exists as a result of the Project's location near roadways with moderate to high traffic (i.e. I-280, Homestead Road, Sunnyvale-Saratoga Road) and the high levels of PM2.5 already present in the ambient air. Ex. A, p. 10. No analysis has been conducted of the significant cumulative health impacts that will result to employees working at the Project.

Mr. Offermann concludes that this significant environmental impact should be analyzed in an EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. *Id.* Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the installation of air filters and a requirement that the applicant use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins in the buildings' interiors. *Id.*, pp. 11-12.

The City has a duty to investigate issues relating to a project's potential environmental impacts, especially those issues raised by an expert's comments. *See Cty. Sanitation Dist. No. 2 v. Cty. of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98 ("under CEQA, the lead agency bears a burden to investigate potential environmental impacts"). In addition to assessing the Project's potential health impacts to workers, Mr. Offermann identifies the investigatory path that the City should be following in developing an EIR to more precisely evaluate the Projects' future formaldehyde emissions and establishing mitigation measures that reduce the cancer risk below the BAAQMD level. *Id.*, pp. 4-9. Such an analysis would be similar in form to the air quality modeling and traffic modeling typically conducted as part of a CEQA review.

The failure to address the project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). At issue in *CBIA* was whether the Air District could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of adjacent environmental conditions on a project. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects on a project. *CBIA*, 62 Cal.4th at 800-801. However, to the extent a project may exacerbate existing adverse environmental conditions at or near a project site, those would still have to be considered pursuant to CEQA. *Id.* at 801 ("CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"). In so holding, the Court expressly held that CEQA's statutory language required lead agencies to disclose and analyze "impacts on ***a project's users or residents*** that arise ***from the project's effects*** on the environment." *Id.* at 800 (emphasis added).

The carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition. Those emissions to the air will be from the Project. Employees will be users of the hotel. Currently, there is presumably little if any formaldehyde emissions at the site. Once the project is built, emissions will begin at levels that pose significant health risks. Rather than excusing the City from addressing the impacts of carcinogens emitted into the indoor air from the project, the Supreme Court in *CBIA* expressly finds that this type of effect by the project on the environment and a "project's users and residents" must be addressed in the CEQA process.

The Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" *CBIA*, 62 Cal.4th at 800 (emphasis in original). Likewise, "the

Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." *Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d). It goes without saying that the hundreds of future employees of the project are human beings and the health and safety of those workers is as important to CEQA's safeguards as nearby residents currently living near the project site.

Because Mr. Offermann's expert review is substantial evidence of a fair argument of a significant environmental impact to future users of the project, an EIR must be prepared to disclose and mitigate those impacts.

B. The IS/MND Fails to Adequately Mitigate the Potential Adverse Impacts of the Project on Wildlife by Window Collisions.

The IS/MND states that the Project "would alter the physical characteristics of the site; however, this change is not expected to contribute to a substantial increase in the risk of collisions to local and migratory birds." IS/MND, p. 4-22. We had wildlife expert, Dr. Shawn Smallwood, review the analysis of bird collision impacts and mitigation measures. Dr. Smallwood concurs with the implementation of the identified mitigation measures but believes they must include a post-construction fatality monitoring component in order to ensure their effectiveness. In order to inform of whether and to what degree fatality reduction measures or compensation measures might be needed to mitigate bird collisions with windows, Dr. Smallwood recommends adding a requirement that the Project conduct weekly fatality searches and a qualified biologist integrate carcass detection trials into the fatality searches to estimate a carcass detection rate. Dr. Smallwood's recommended fatality monitoring strategy will inform whether or not the mitigation measures identified in the MND actually address any potential significant bird collision impacts.

C. The IS/MND Failed to Adequately Analyze the Project's Construction Emission Impacts.

SWAPE reviewed the IS/MND and construction emission analysis and found that the IS/MND incorrectly analyzed these emissions. The BAAQMD provides significance thresholds to evaluate air pollution emissions in the form of pounds per day. In order to compare the Project's air pollutant emissions to these thresholds, the IS/MND stated that "[a]verage daily emissions are based on the annual construction emissions divided by the total number of active construction days." IS/MND, p. 4-11. However, SWAPE states that the IS/MND's conversion of annual emissions measured in tons per year to pounds per year and then divided by the number of construction workdays is incorrect. Ex. B, p. 2.

California Emissions Estimator Model ("CalEEMod") provides three types of output files – winter, summer, and annual. Winter and summer output files provide emissions estimates in pounds per day while the annual output files measure emissions in tons per year. *Id.* CEQA requires the most conservative analysis, and the use of converted annual CalEEMod output files may underestimate emissions. SWAPE therefore concludes that the IS/MND's conversion from the annual tons per year to pounds per day was unsubstantiated and incorrect, and the IS/MND should have provided and utilized emissions from the winter or summer CalEEMod output files in order to compare to the BAAQMD thresholds. *Id.*

D. The IS/MND Relied on Unsubstantiated Input Parameters to Estimate Project Emissions and Thus Failed to Adequately Analyze the Project's Air Quality Impacts.

The IS/MND for the Project relies on emissions calculated from CalEEMod.2016.3.2. This model relies on recommended default values, or on site-specific information related to a number of factors. The model is used to generate a project's construction and operational emissions. SWAPE reviewed the Project's CalEEMod output files and found that the values input into the model were inconsistent with information provided in the IS/MND, resulting in an underestimation of the Project's emissions. *Id.* The particular errors identified by SWAPE are discussed below. These errors should be corrected in a subsequent CEQA document prior to approval of the Project.

1. <u>The IS/MND relies on the use of an underestimated land use size.</u>

Review of the CalEEMod output files demonstrates that the floor surface area values of the proposed parking lot and hotel land uses were underestimated within the model, and as a result, may underestimate the Project's emissions. *Id.* According to the IS/MND, the Project proposes to construct an 18,000 square-foot driveway and surface parking lot and a 129,000 square-foot hotel building. IS/MND, p. 3-25. However, the CalEEMod output files reveals that only 860 square feet of the parking lot and only 122,256 square feet of the hotel were included in the model. IS/MND Revised App. A, pp 93, 135. By underestimating the floor surface areas of the proposed parking lot and hotel land uses, the model underestimates the Project's construction and operational emissions and should not be relied upon to determine Project significance.

2. <u>The IS/MND relies on unsubstantiated changes to intensity factors.</u>

Review of the CalEEMod output files demonstrates that the model's CO_2 intensity factor was artificially reduced from 641.35 to 10.84, the CH_4 intensity factor was reduced from 0.029 to 0, and the N_2O intensity factor was reduced from 0.006 to 0. IS/MND Revised App. A, pp. 96, 138, Ex. B, p. 3. According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is that "Carbon Intensity factors adjusted for Silicon Valley Clean Energy Power." IS/MND Revised App. A, pp. 94, 136. Furthermore, the IS states that Silicon Valley Clean Energy will supply electricity to the Project site. IS/MND, p. 4-30. However, neither the IS/MND nor its associated appendices provide a citation or further justification for the updated carbon intensity factors. Ex. B, p. 4. Without any evidence supporting this, reliance on these reductions violates CEQA.

3. <u>The IS/MND fails to include the total amount of material export.</u>

Review of the CalEEMod output files demonstrates that the IS/MND's model failed to include the total amount of material export expected to occur during Project construction. *Id.* According to the IS/MND, "[t]he proposed Project would require up to 72,000 cubic yards of cut." IS/MND, p. 3-25. However, review of the CalEEMod output files demonstrates that only 71,054 cubic yards of material export were included in the model. IS/MND Revised App. A, pp. 95, 137, Ex. B, p. 4. The underestimation of 946 cubic yards of material export presents an issue, as the inclusion of the entire amount of material export within the model is necessary to calculate the emissions produced from material movement, including truck loading and unloading, and additional hauling truck trips. Ex. B, p. 4. As a result of the IS/MND failing to include the total amount of material export, emissions generated during Project construction may be underestimated.

4. <u>The IS/MND relies on unsubstantiated changes to pieces of construction equipment.</u>

Review of the CalEEMod output files demonstrates that the number of several pieces of construction equipment were reduced to zero. IS/MND Revised App. A, pp. 95, 138, Ex. B, p. 4. According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "No grading soil haul equipment." IS/MND Revised App. A, pp. 94, 136. However, this change is not mentioned or justified in the IS/MND and associated appendices. Without any evidence supporting this, reliance on these reductions violates CEQA.

5. <u>The IS/MND relies on unsubstantiated changes to fleet fix.</u>

The CalEEMod output files demonstrate that several fleet mix percentage values were manually altered. IS/MND Revised App. A, pp. 95, 137, Ex. B, p. 5. The explanation provided in the file is: "Refer to CalEEMod inputs fleet mix." IS/MND Revised App. A, p. 94. But neither the IS/MND nor the associated appendices mention or justify these changes. Ex. B, p. 5. Without any evidence supporting this, reliance on the model violates CEQA.

6. <u>The IS/MND relies on unsubstantiated changes to wastewater treatment system percentages.</u>

Review of the CalEEMod output files demonstrates that the wastewater treatment system percentages were manually altered. IS/MND Revised App. A, pp. 96, 138, 139, Ex. B, p. 6. The explanation provided is "Refer to CalEEMod inputs." IS/MND Revised App. A, pp. 94, 136. However, the IS/MND fails to justify this statement or mention the changes. According to the CalEEMod User's Guide, each type of wastewater treatment system is associated with different GHG emission factors. Therefore, artificially altering the wastewater treatment system percentages may result in an underestimation of the Project's GHG emissions. Ex. B, p. 6. Without any evidence supporting these changes, reliance on the model violates CEQA.

7. <u>The IS/MND relies on an incorrect indoor water use rate.</u>

Review of the CalEEMod output files demonstrates that the indoor water use rate, used to estimate the Project's GHG emissions associated with the supply and treatment of water, was incorrectly changed from the CalEEMod default value without sufficient justification. *Id.* According to the IS/MND, "[t]he estimated water demand is 156 hotel rooms x 390 square foot per room x 0.50 gpd/sf for a total of 30,420 gpd." IS/MND, p. 4-93. Converted, this correlates with an indoor water use rate of 11,103,300 gallons per year (gpy). Ex. B, p. 6. However, only 82,125 gpy were inputted into the model for the hotel land use. IS/MND Revised App. A, p. 138, Ex. B, p. 6. The explanation provided is "Refer to CalEEMod inputs." IS/MND Revised App. A, p. 136. This fails to substantiate the changes or justify a different indoor water use rate than was specified in the IS/MND. Ex. B, p. 7. Thus, the CalEEMod is incorrect and underestimates the hotel land use's indoor water use rate.

Further, while the IS/MND provides data on the hotel land use's indoor water use rate, it fails to provide an indoor water use rate for the Project's other proposed land uses. *Id.* As a result, the model may underestimate the Project's water-related operational emissions.

8. <u>The IS/MND relies on an unsubstantiated change to solid waste generation rates.</u>

Review of the CalEEMod output files demonstrates that the Project's solid waste generation rates were manually changed without adequate justification. IS/MND Revised App. A, p. 138, Ex. B, p. 7. The explanation provided is "Refer to CalEEMod inputs." IS/MND Revised App. A, p. 136. However, the IS/MND fails to justify or mention these changes, and can therefore not be relied upon to determine Project significance.

9. <u>The IS/MND relies on an unsubstantiated application of a construction mitigation measure.</u>

Review of the CalEEMod output files reveals that the model includes a 9% reduction of particulate matter emissions as a result of the "Clean Paved Roads" mitigation measure. IS/MND Revised App. A, pp. 94, 134, Ex. B, p. 8. While the IS/MND mentions sweeping paved roads, it does not justify or mention the 9% reduction. IS/MND, p. 4-11. As a result, the model may underestimate the Project's construction emissions and the mitigation cannot be relied upon.

10. <u>The IS/MND relies on an unsubstantiated application of water-related operational mitigation measures.</u>

Review of the CalEEMod output files demonstrates that the Project's emissions were modeled with several unsubstantiated water-related mitigation measures. IS/MND Revised App. A, p. 129, Ex. B, p. 9. The Project's operational emissions were modeled including the following water-related mitigation measures: "Install Low Flow Bathroom Faucet," "Install Low Flow Kitchen Faucet," "Install Low Flow Toilet," and "Install Low Flow Shower." IS/MND Revised App. A, p. 129. However, the "User Entered Comments & Non-Default Data" table fails to mention or provide a justification for the inclusion of these mitigation measures and the IS/MND fails to address these mitigation measures. As a result, the model cannot be relied upon to determine Project significance.

E. The IS/MND Fails to Adequately Evaluate Health Risks from Diesel Particulate Matter Emissions.

SWAPE's review of the IS/MND and construction health risk assessment ("HRA") found that the IS/MND relies on an unsubstantiated air model that underestimates the Project's emissions and completely failed to conduct a quantified HRA for Project operation. Ex. B, pp. 9-10. SWAPE concluded that the use of the construction related mitigation measures and the failure to evaluate the operational health risk posed to nearby receptors to the Project is inappropriate for several reasons.

First, the construction HRA relies on an unsubstantiated air model that underestimates the Project's emissions as discussed above. As a result, the IS/MND's conclusion that, after mitigation, the construction-related health risk to the maximally exposed individual receptor would be approximately 5.1 in one million cannot be relied upon to determine the Project's significance.

Second, simply stating that the Project "would not result in creation of land uses that would generate substantial concentrations of TACs" does not justify the omission of an operational HRA. By failing to prepare an operational HRA, the IS/MND is inconsistent with recommendations set forth by the Office of Environmental Health and Hazard Assessment's (OEHHA) most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015. "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. The OEHHA guidance document describes the types of projects that warrant the preparation of a health risk assessment. *Id.* Once construction of the Project is complete, the Project will operate for a long period of time. During operation, the Project will generate vehicle trips, which will generate additional exhaust emissions, thus continuing to expose nearby sensitive receptors to emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR). *Id.* at 8-6, 8-15. Although the IS/MND did not provide the expected lifetime of the Project, SWAPE reasonably assumes that the Project will operate for at least 30 years, if not more. Therefore, SWAPE states that health risks from Project operation should have also been evaluated in the IS/MND, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. Ex. B, p. 10.

Third, SWAPE found that the IS/MND failed to sum the cancer risk calculated for each age group. *Id.* According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location." "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4. However, review of the construction HRA conducted in the IS/MND failed to sum each age bin to evaluate the total cancer risk over the course of the Project's lifetime. Ex. B, p. 10. This is incorrect and an updated analysis should quantify the Project's construction and operational health risks and then sum them to compare to the BAAQMD threshold of 10 in one million. *Id.*, pp. 10-11, "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

F. There is Substantial Evidence that the Project May have a Significant Health Risk Impact.

Correcting the above errors, SWAPE prepared a screening-level HRA to evaluate potential impacts from the construction and operation of the Project. SWAPE used AERSCREEN, the leading screening-level air quality dispersion model. Ex. B, pp. 11-14. SWAPE used a sensitive receptor distance of 50 meters (the distance to the closest residential receptor) and analyzed impacts to individuals at different stages of life based on OEHHA guidance. *Id.*, pp. 11-13.

SWAPE calculates that the Project's construction and operation may pose cancer risks to adults, children, and infants of approximately 21, 140, and 150 in one million, well above the BAAQMD significance threshold of 10 in one million. *Id.*, p. 14. The excess cancer risk over the course of a residential lifetime calculated by SWAPE is 310 in one million, resulting in a potentially significant health risk impact not previously addressed or identified by the IS/MND. *Id.* These screening level calculations demonstrate that the Project's construction and operational diesel particulate matter emissions may result in a potentially significant health risk impact. SWAPE's screening-level HRA analysis and results can be found in Exhibit B, pp. 11-14.

G. The IS/MND Failed to Adequately Analyze Greenhouse Gas Impacts.

The IS/MND concludes that the Project's GHG emissions would exceed the BAAQMD's bright line threshold, and subsequently proposes mitigation to find that the GHG emissions impact would be less than significant. IS.MND, p. 4-39. The IS/MND also evaluates the Project's consistency with the CARB Scoping Plan, the Plan Bay Area 2040, and Cupertino's Climate Action Plan ("CAP") to determine that the Project would have a less than significant impact. *Id.*, p. 4-40. However, SWAPE concludes that this analysis and subsequent less than significant impact conclusion is incorrect for several reasons.

First, the CARB Scoping Plan and the Plan Bay Area cannot be relied upon to determine project significance because they do not qualify as CAPs. Ex. B, p. 15. When CEQA Guidelines sections 15064.4(b)(3) and 15183.5(b)(1) are read in conjunction, they make clear that qualified GHG reduction plans, also known as CAPs, should require the following features: 1) inventory; 2) establish GHG reduction goals; 3) analyze project types; 4) craft performance based mitigation measures; and 5) monitoring. *Id.*, pp. 15-16. These CAP features provide the necessary substantial evidence demonstrating a project's incremental contribution is not cumulatively considerable as required by CEQA Guidelines section 15064.4(b)(3). As SWAPE points out, the IS/MND fails to demonstrate that the plans and policies include these 5 listed requirements to be considered a qualified CAP for the City, leaving an analytical gap showing that compliance with said plans can be used for a project-level significance determination. *Id.* at 16.

Second, the Project fails to demonstrate consistency with the Cupertino CAP. SWAPE notes that the CAP fails to provide specific, project-level measures, and instead provides "community-wide" measures with quantified GHG reduction potentials. *Id.* Regardless of this, the IS/MND fails to demonstrate consistency with all of the CAP's "community-wide" measures and associated GHG reduction potentials. *See, id.*, pp. 16-20.

H. There is Substantial Evidence that the Project May have a Significant Greenhouse Gas Impact.

The IS/MND's GHG analysis is also flawed because it relies on an incorrect CalEEMod model (discussed above), and cannot assume that the implementation of one mitigation measure would reduce the Project's GHG emissions to a less than significant level without quantifying impacts. SWAPE ran an updated GHG analysis using the updated CalEEMod output files and comparing the total Project's GHG emissions, including construction emissions and operational emissions, to the BAAQMD bright-line threshold of 1,100 MT CO_2e/year and found that the Project's GHG emissions exceed the threshold.

SWAPE Annual Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Construction (amortized over 30 years)	34.85
Area	0.01
Energy	974.49
Mobile	1,183.11
Waste	47.71
Water	42.52
Total	**2,282.69**
Threshold	1,100
Exceed?	***Yes***

When accurately modeled, SWAPE determined that the Project's GHG emissions would be approximately 2,283 MT CO_2e/year. Ex. B, pp. 21-22. Since this exceeds the BAAQMD's 1,100 MT CO_2e/year threshold, a Tier 4 analysis is warranted. *Id.*, p. 22. SWAPE divided the Project's GHG emissions by the service population value of 78 people to find that the Project would emit approximately 29.3 MT CO_2e/SP/year, which exceeds the BAAQMD 2030 substantial progress threshold of 2.6 MT CO_2e/SP/year. *Id.* When accurately analyzed, the Project's total GHG emissions exceeds the "Substantial Progress" efficiency threshold for 2030, thus resulting in a significant impact not previously assessed or identified in the IS/MND. *Id.*

SWAPE Greenhouse Gas Emissions	
Project Phase	**Proposed Project ($MT\ CO_2e/year$)**
Annual Emissions	**2,282.69**
Service Population	78
Service Population Efficiency	**29.3**
Threshold	2.6
Exceed?	***Yes***

SWAPE concludes that due to these significant impacts and the failure of the IS/MND to analyze all potential GHG emission impacts, an updated GHG analysis should be prepared in a Project-specific EIR and additional mitigation measures should be incorporated into the Project. *Id.*

I. The IS/MND Fails to Adequately Evaluate and Mitigate the Project's Noise Impacts.

The comment of noise expert Derek Watry is attached as Exhibit D. Mr. Watry has identified several issues with the IS/MND for the Project. His concerns are summarized below.

1. <u>The MND fails to adequately evaluate construction noise levels.</u>

Mr. Watry reviewed the proposed Project and relevant documents regarding the Project's noise impacts, and concludes that the IS/MND improperly analyzed construction noise levels. Mr. Watry concludes that analyzed properly, construction noise levels during the five stages of the Project construction would create a significant noise impact. Ex. D, p. 2.

The Cupertino Municipal Code ("CMC") section 10.48.053 sets the quantitative requirements for construction noise as: ". . . construction activities [may] not exceed 80 dBA at the nearest affected property or individual equipment items do not exceed 87 dBA at 25 feet. Only one of these two criteria must be met." The IS/MND uses the first of these two options and presents estimates of construction noise at the two nearest property lines shared with noise-sensitive receptors. However, as Mr. Watry points out, "the [IS/MND] treats the 80 dBA limit as a limit for the average noise level." Ex. D, p.1. There is no indication in CMC section 10.48.053 that the code intended this limit to be for the average noise level limit, and "it is more likely that the 80 dBA limit is intended to be a maximum for noise levels from the construction activities." *Id.*

Mr. Watry also noted that the IS/MND uses the Federal Highway Administration Roadway Construction Noise Model to determine the data output for the Project's noise levels. However, the Federal Highway Administration Roadway Construction Noise Model shows the maximum noise levels for construction phases at a distance of 200 feet while the construction equipment used at the Project site will be closer than 200 feet to the Cupertino Hotel property line. *Id*., p. 2. Mr. Watry used the attenuation with distance factor used in the IS/MND and the closest approach point to the Cupertino Hotel property line to calculate the maximum noise levels of the Project's construction phases, shown below:

TABLE I Maximum Construction Noise Levels		
Construction Phase	**Lmax**	**Distance to 80 dBA Lmax**
Demolition	93 dBA	150 ft
Site Preparation	88 dBA	89 ft
Grading	93 dBA	150 ft
Building Construction	87 dBA	80 ft
Paving	87 dBA	80 ft

Id. The table also shows the distance of the loudest piece of equipment in each phase will need to be from the property to produce a maximum noise level of 80 dBA. As Mr. Watry notes, "[f]or the demolition and grading phases, the distance is nearly half the width of the project site indicating that the 80 dBA limit will be exceeded half of the time during these phases."

Mr. Watry concludes that the City's misinterpretation of the CMC led to an inadequate noise impact analysis, and when properly analyzed the Project's noise levels during five stages of construction will create a significant noise impact. An EIR must therefore be prepared.

2. The MND fails to adequately mitigate the operational noise impacts.

The IS/MND concludes that the Project's operational noise impacts would be potentially significant but Mitigation Measure NOISE-2 would make that impact less than significant. IS/MND, p. 4-63. However, Mitigation Measure NOISE-2 does not provide a substantive analysis that feasible mitigation is possible. Ex. D, p. 3. Instead, it simply states that a qualified acoustician will, at some point in the future, determine specific measures to reduce noise levels.

CEQA prohibits deferring the formulation of mitigation measures to post-approval studies. CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309. An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." *Sundstrom* at 308; *see also Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible"). A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available). This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug." *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.

Mr. Watry points out that the IS/MND attempts to minimize operational noise levels from the generator including a Level II sound enclosure, but still found that the noise levels exceed the adopted criteria. Ex. D, p. 3. Mr. Watry concludes that this "provides more impetus for additional analysis to demonstrate that feasible mitigation is possible or to determine that the impact is significant." *Id.*

3. <u>The IS/MND fails to adequately evaluate traffic noise levels.</u>

For the traffic noise analysis, the IS/MND uses a relative, "audible" threshold of significance and "only 'audible' changes in noise levels at sensitive receptor locations (i.e., 3 dBA or more) are considered potentially significant." IS/MND, p. 4-58. Mr. Watry states that "[t]he fundamental problem with using a relative threshold of significance, e.g., a change of 3 dBA or greater, is that, over time, there will effectively be no limit." Ex. D, p. 3. In order to keep noise levels from increasing continually without limit over time, Mr. Watry concludes that absolute criteria should be used as well. *Id.*, p. 4.

> For this project, an appropriate source for absolute criteria is the *Cupertino General Plan – Community Vision 2015-2040*. Chapter 7, Health and Safety Element, contains Land Use Compatibility for Community Noise Environments, cast in terms of either the Day-Night Equivalent Level (L_{dn}) or the Community Noise Equivalent Level (CNEL), both 24-hour weighted average noise levels. [General Plan, Figure HS-8]. For various types of land uses, Figure HS-8 indicates if a particular noise exposure is "normally acceptable", "conditionally acceptable", "normally unacceptable", or "clearly unacceptable". A very reasonable, absolute threshold of significance would be if the noise level changed from one classification to another, regardless of the amount of the increase.

Id.

Mr. Watry's absolute criteria analysis would necessarily be based on measurements of the existing noise environment around the Project site, which the IS/MND did not do in its noise analysis.

IV. CONCLUSION

For the foregoing reasons, the MND for the Project should be withdrawn, an EIR should be prepared, and the draft EIR should be circulated for public review and comment in accordance with CEQA. Thank you for considering these comments.

Sincerely,

Michael R. Lozeau
Paige Fennie
Lozeau | Drury LLP

Exhibit A

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Date: January 16, 2020

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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: De Anza Hotel – Cupertino, CA
(IEE File Reference: P-4327)

Pages: 15

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson, 2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 μg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 μg is 2 μg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 μg/m^3. The median indoor formaldehyde concentration was 36 μg/m^3, and ranged from 4.8 to 136 μg/m^3, which corresponds to a median exceedance of the 2 μg/m^3 NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 μg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the Bay Air Quality Management District (BAAQMD, 2017).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 μg/m^3 to 28% for the Acute REL of 55 μg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations that are below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Chan et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 38% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 112 per million for homes built with CARB compliant composite wood products, which is more than 11 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to this project, the buildings in the De Anza Hotel Project in Cupertino, CA consist of a hotel.

The employees of the hotel are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the hotel will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 22.4 $\mu g/m^3$ (Chan et. al., 2019)

Assuming that the hotel employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 149 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 65.8 µg/day.

This is 1.64 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 16.4 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

While measurements of the indoor concentrations of formaldehyde in residences built with CARB Phase 2 Formaldehyde ATCM materials (Chan et. al., 2018), indicate that indoor formaldehyde concentrations in buildings built with similar materials (e.g. hotels, residences, offices, warehouses, schools) will pose cancer risks in excess of the CEQA cancer risk of 10 per million, a determination of the cancer risk that is specific to this project and the materials used to construct these buildings can and should be conducted prior to completion of the environmental review.

The following describes a method that should be used prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of the specific building materials/furnishings selected for the building exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment.

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (μg/h) from the product of the area-specific formaldehyde emission rate (μg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (μg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., μg/m^2-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 μg/m^2-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 μg/m^2-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. μg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (μg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. μg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (μg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder to "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated air contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 ach, with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The De Anza Hotel Project – Cupertino CA is close to roads with moderate to high traffic (e.g. I-280, Homestead Road, Sunnyvale-Saratoga Road, etc.). As a result of the outdoor vehicle traffic noise, the Project site is likely to be a sound impacted site. The noise analyses provided in the Public Review Draft Initial Study (Placeworks, 2019), does not report the existing plus project noise levels (e.g. CNEL, Ldn), rather this report simply reports what the increase in the existing noise levels caused by the Project.

As a result of the high outdoor noise levels, the current project will require the need for mechanical supply of outdoor air ventilation air to allow for a habitable interior environment with closed windows and doors. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

<u>$PM_{2.5}$ Outdoor Concentrations Impact</u>. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Public Review Draft Initial Study (Placeworks, 2019), this Project is located in the San Francisco Bay Area Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

An air quality analyses should to be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient $PM_{2.5}$ removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

- indoor formaldehyde concentrations
- outdoor air ventilation
- $PM_{2.5}$ outdoor air concentrations

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins (CARB, 2009). Other projects such as the AC by Marriott Hotel – West San Jose Project (Asset Gas SC Inc.) and 2525 North Main Street, Santa Ana (AC 2525 Main LLC, 2019) have entered into settlement agreements stipulating the use of composite wood materials only containing NAF or ULEF resins.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder to "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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Education

M.S. Mechanical Engineering (1985)
Stanford University, Stanford, CA.

Graduate Studies in Air Pollution Monitoring and Control (1980)
University of California, Berkeley, CA.

B.S. in Mechanical Engineering (1976)
Rensselaer Polytechnic Institute, Troy, N.Y.

Professional Experience

President: Indoor Environmental Engineering, San Francisco, CA. December, 1981 - present.

Direct team of environmental scientists, chemists, and mechanical engineers in conducting State and Federal research regarding indoor air quality instrumentation development, building air quality field studies, ventilation and air cleaning performance measurements, and chemical emission rate testing.

Provide design side input to architects regarding selection of building materials and ventilation system components to ensure a high quality indoor environment.

Direct Indoor Air Quality Consulting Team for the winning design proposal for the new State of Washington Ecology Department building.

Develop a full-scale ventilation test facility for measuring the performance of air diffusers; ASHRAE 129, Air Change Effectiveness, and ASHRAE 113, Air Diffusion Performance Index.

Develop a chemical emission rate testing laboratory for measuring the chemical emissions from building materials, furnishings, and equipment.

Principle Investigator of the California New Homes Study (2005-2007). Measured ventilation and indoor air quality in 108 new single family detached homes in northern and southern California.

Develop and teach IAQ professional development workshops to building owners, managers, hygienists, and engineers.

Air Pollution Engineer: Earth Metrics Inc., Burlingame, CA, October, 1985 to March, 1987.

Responsible for development of an air pollution laboratory including installation a forced choice olfactometer, tracer gas electron capture chromatograph, and associated calibration facilities. Field team leader for studies of fugitive odor emissions from sewage treatment plants, entrainment of fume hood exhausts into computer chip fabrication rooms, and indoor air quality investigations.

Staff Scientist: Building Ventilation and Indoor Air Quality Program, Energy and Environment Division, Lawrence Berkeley Laboratory, Berkeley, CA. January, 1980 to August, 1984.

Deputy project leader for the Control Techniques group; responsible for laboratory and field studies aimed at evaluating the performance of indoor air pollutant control strategies (i.e. ventilation, filtration, precipitation, absorption, adsorption, and source control).

Coordinated field and laboratory studies of air-to-air heat exchangers including evaluation of thermal performance, ventilation efficiency, cross-stream contaminant transfer, and the effects of freezing/defrosting.

Developed an *in situ* test protocol for evaluating the performance of air cleaning systems and introduced the concept of effective cleaning rate (ECR) also known as the Clean Air Delivery Rate (CADR).

Coordinated laboratory studies of portable and ducted air cleaning systems and their effect on indoor concentrations of respirable particles and radon progeny.

Co-designed an automated instrument system for measuring residential ventilation rates and radon concentrations.

Designed hardware and software for a multi-channel automated data acquisition system used to evaluate the performance of air-to-air heat transfer equipment.

Assistant Chief Engineer: Alta Bates Hospital, Berkeley, CA, October, 1979 to January, 1980.

Responsible for energy management projects involving installation of power factor correction capacitors on large inductive electrical devices and installation of steam meters on physical plant steam lines. Member of Local 39, International Union of Operating Engineers.

Manufacturing Engineer: American Precision Industries, Buffalo, NY, October, 1977 to October, 1979.

Responsible for reorganizing the manufacturing procedures regarding production of shell and tube heat exchangers. Designed customized automatic assembly, welding, and testing equipment. Designed a large paint spray booth. Prepared economic studies justifying new equipment purchases. Safety Director.

Project Engineer: Arcata Graphics, Buffalo, N.Y. June, 1976 to October, 1977.

Responsible for the design and installation of a bulk ink storage and distribution system and high speed automatic counting and marking equipment. Also coordinated material handling studies which led to the purchase and installation of new equipment.

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

- Chairman of SPC-145P, Standards Project Committee - Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment (1991-1992)
- Member SPC-129P, Standards Project Committee - Test Method for Ventilation Effectiveness (1986-97)
  - Member of Drafting Committee
- Member Environmental Health Committee (1992-1994, 1997-2001, 2007-2010)
  - Chairman of EHC Research Subcommittee
  - Member of Man Made Mineral Fiber Position Paper Subcommittee
  - Member of the IAQ Position Paper Committee
  - Member of the Legionella Position Paper Committee
  - Member of the Limiting Indoor Mold and Dampness in Buildings Position Paper Committee
- Member SSPC-62, Standing Standards Project Committee - Ventilation for Acceptable Indoor Air Quality (1992 to 2000)
  - Chairman of Source Control and Air Cleaning Subcommittee
- Chairman of TC-4.10, Indoor Environmental Modeling (1988-92)
  - Member of Research Subcommittee
- Chairman of TC-2.3, Gaseous Air Contaminants and Control Equipment (1989-92)
  - Member of Research Subcommittee

American Society for Testing and Materials (ASTM)

- D-22 Sampling and Analysis of Atmospheres
  - Member of Indoor Air Quality Subcommittee
- E-06 Performance of Building Constructions

American Board of Industrial Hygiene (ABIH)

American Conference of Governmental Industrial Hygienists (ACGIH)

- Bioaerosols Committee (2007-2013)

American Industrial Hygiene Association (AIHA)

Cal-OSHA Indoor Air Quality Advisory Committee

International Society of Indoor Air Quality and Climate (ISIAQ)

- Co-Chairman of Task Force on HVAC Hygiene

U. S. Green Building Council (USGBC)
- Member of the IEQ Technical Advisory Group (2007-2009)
- Member of the IAQ Performance Testing Work Group (2010-2012)

Western Construction Consultants (WESTCON)

PROFESSIONAL CREDENTIALS

Licensed Professional Engineer - Mechanical Engineering

Certified Industrial Hygienist - American Board of Industrial Hygienists

SCIENTIFIC MEETINGS AND SYMPOSIA

Biological Contamination, Diagnosis, and Mitigation, Indoor Air'90, Toronto, Canada, August, 1990.

Models for Predicting Air Quality, Indoor Air'90, Toronto, Canada, August, 1990.

Microbes in Building Materials and Systems, Indoor Air '93, Helsinki, Finland, July, 1993.

Microorganisms in Indoor Air Assessment and Evaluation of Health Effects and Probable Causes, Walnut Creek, CA, February 27, 1997.

Controlling Microbial Moisture Problems in Buildings, Walnut Creek, CA, February 27, 1997.

Scientific Advisory Committee, Roomvent 98, 6^{th} International Conference on Air Distribution in Rooms, KTH, Stockholm, Sweden, June 14-17, 1998.

Moisture and Mould, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Ventilation Modeling and Simulation, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Microbial Growth in Materials, Healthy Buildings 2000, Espoo, Finland, August, 2000.

Co-Chair, Bioaerosols X- Exposures in Residences, Indoor Air 2002, Monterey, CA, July 2002.

Healthy Indoor Environments, Anaheim, CA, April 2003.

Chair, Environmental Tobacco Smoke in Multi-Family Homes, Indoor Air 2008, Copenhagen, Denmark, July 2008.

Co-Chair, ISIAQ Task Force Workshop; HVAC Hygiene, Indoor Air 2002, Monterey, CA, July 2002.

Chair, ETS in Multi-Family Housing: Exposures, Controls, and Legalities Forum, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

Chair, Energy Conservation and IAQ in Residences Workshop, Indoor Air 2011, Austin, TX, June 6, 2011.

Chair, Electronic Cigarettes: Chemical Emissions and Exposures Colloquium, Indoor Air 2016, Ghent, Belgium, July 4, 2016.

SPECIAL CONSULTATION

Provide consultation to the American Home Appliance Manufacturers on the development of a standard for testing portable air cleaners, AHAM Standard AC-1.

Served as an expert witness and special consultant for the U.S. Federal Trade Commission regarding the performance claims found in advertisements of portable air cleaners and residential furnace filters.

Conducted a forensic investigation for a San Mateo, CA pro se defendant, regarding an alleged homicide where the victim was kidnapped in a steamer trunk. Determined the air exchange rate in the steamer trunk and how long the person could survive.

Conducted *in situ* measurement of human exposure to toluene fumes released during nailpolish application for a plaintiffs attorney pursuing a California Proposition 65 product labeling case. June, 1993.

Conducted a forensic *in situ* investigation for the Butte County, CA Sheriff's Department of the emissions of a portable heater used in the bedroom of two twin one year old girls who suffered simultaneous crib death.

Consult with OSHA on the 1995 proposed new regulation regarding indoor air quality and environmental tobacco smoke.

Consult with EPA on the proposed Building Alliance program and with OSHA on the proposed new OSHA IAQ regulation.

Johnson Controls Audit/Certification Expert Review; Milwaukee, WI. May 28-29, 1997.

Winner of the nationally published 1999 Request for Proposals by the State of Washington to conduct a comprehensive indoor air quality investigation of the Washington State Department of Ecology building in Lacey, WA.

Selected by the State of California Attorney General's Office in August, 2000 to conduct a comprehensive indoor air quality investigation of the Tulare County Court House.

Lawrence Berkeley Laboratory IAQ Experts Workshop: "Cause and Prevention of Sick Building Problems in Offices: The Experience of Indoor Environmental Quality Investigators", Berkeley, California, May 26-27, 2004.

Provide consultation and chemical emission rate testing to the State of California Attorney General's Office in 2013-2015 regarding the chemical emissions from e-cigarettes.

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F.J.Offermann, S.A.Loiselle, A.T.Hodgson, L.A. Gundel, and J.M. Daisey, "A Pilot Study to Measure Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air* , Vol 4, pp 497-512, 1991.

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F.J. Offermann and S. A. Loiselle, "Performance of an Air-Cleaning System in an Archival Book Storage Facility," *IAQ'92*, ASHRAE, Atlanta, GA, 1992.

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"IAQ Primer", Local 39, April 16, 1997; Amdahl Corporation, June 9, 1997; State Compensation Insurance Fund's Safety & Health Services Department, November 21, 1996.

"Tracer Gas Techniques for Measuring Building Air Flow Rates", ASHRAE, Philadelphia, PA, January 26, 1997.

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"Indoor Environment Controls: What's Hot and What's Not", Shaklee Corporation; San Francisco, CA, July 15, 1997.

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"Operations and Maintenance for Healthy and Comfortable Indoor Environments", PASMA; October 7, 1997.

"Designing for Healthy and Comfortable Indoor Environments", Construction Specification Institute, Santa Rosa, CA, November 6, 1997.

"Ventilation System Design for Good IAQ", University of Tulsa 10th Annual Conference, San Francisco, CA, February 25, 1998.

"The Building Shell", Tools For Building Green Conference and Trade Show, Alameda County Waste Management Authority and Recycling Board, Oakland, CA, February 28, 1998.

"Identifying Fungal Contamination Problems In Buildings", The City of Oakland Municipal Employees, Oakland, CA, March 26, 1998.

"Managing Indoor Air Quality in Schools: Staying Out of Trouble", CASBO, Sacramento, CA, April 20, 1998.

"Indoor Air Quality", CSOOC Spring Conference, Visalia, CA, April 30, 1998.

"Particulate and Gas Phase Air Filtration", ACGIH/OSHA, Ft. Mitchell, KY, June 1998.

"Building Air Quality Facts and Myths", The City of Oakland / Alameda County Safety Seminar, Oakland, CA, June 12, 1998.

"Building Engineering and Moisture", Building Contamination Workshop, University of California Berkeley, Continuing Education in Engineering and Environmental Management, San Francisco, CA, October 21-22, 1999.

"Identifying and Mitigating Mold Contamination in Buildings", Western Construction Consultants Association, Oakland, CA, March 15, 2000; AIG Construction Defect Seminar, Walnut Creek, CA, May 2, 2001; City of Oakland Public Works Agency, Oakland, CA, July 24, 2001; Executive Council of Homeowners, Alamo, CA, August 3, 2001.

"Using the EPA BASE Study for IAQ Investigation / Communication", Joint Professional Symposium 2000, American Industrial Hygiene Association, Orange County & Southern California Sections, Long Beach, October 19, 2000.

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"Diagnostics & Mitigation in Sick Buildings: When Good Buildings Go Bad," University of California Berkeley, September 18, 2001.

"Mold Contamination: Recognition and What To Do and Not Do", Redwood Empire Remodelers Association; Santa Rosa, CA, April 16, 2002.

"Investigative Tools of the IAQ Trade", Healthy Indoor Environments 2002; Austin, TX; April 22, 2002.

"Finding Hidden Mold: Case Studies in IAQ Investigations", AIHA Northern California Professionals Symposium; Oakland, CA, May 8, 2002.

"Assessing and Mitigating Fungal Contamination in Buildings", Cal/OSHA Training; Oakland, CA, February 14, 2003 and West Covina, CA, February 20-21, 2003.

"Use of External Containments During Fungal Mitigation", Invited Speaker, ACGIH Mold Remediation Symposium, Orlando, FL, November 3-5, 2003.

Building Operator Certification (BOC), 106-IAQ Training Workshops, Northwest Energy Efficiency Council; Stockton, CA, December 3, 2003; San Francisco, CA, December 9, 2003; Irvine, CA, January 13, 2004; San Diego, January 14, 2004; Irwindale, CA, January 27, 2004; Downey, CA, January 28, 2004; Santa Monica, CA, March 16, 2004; Ontario, CA, March 17, 2004; Ontario, CA, November 9, 2004, San Diego, CA, November 10, 2004; San Francisco, CA, November 17, 2004; San Jose, CA, November 18, 2004; Sacramento, CA, March 15, 2005.

"Mold Remediation: The National QUEST for Uniformity Symposium", Invited Speaker, Orlando, Florida, November 3-5, 2003.

"Mold and Moisture Control", Indoor Air Quality workshop for The Collaborative for High Performance Schools (CHPS), San Francisco, December 11, 2003.

"Advanced Perspectives In Mold Prevention & Control Symposium", Invited Speaker, Las Vegas, Nevada, November 7-9, 2004.

"Building Sciences: Understanding and Controlling Moisture in Buildings", American Industrial Hygiene Association, San Francisco, CA, February 14-16, 2005.

"Indoor Air Quality Diagnostics and Healthy Building Design", University of California Berkeley, Berkeley, CA, March 2, 2005.

"Improving IAQ = Reduced Tenant Complaints", Northern California Facilities Exposition, Santa Clara, CA, September 27, 2007.

"Defining Safe Building Air", Criteria for Safe Air and Water in Buildings, ASHRAE Winter Meeting, Chicago, IL, January 27, 2008.

"Update on USGBC LEED and Air Filtration", Invited Speaker, NAFA 2008 Convention, San Francisco, CA, September 19, 2008.

"Ventilation and Indoor air Quality in New California Homes", National Center of Healthy Housing, October 20, 2008.

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"Mechanical Outdoor air Ventilation Systems and IAQ in New Homes", ACI Home Performance Conference, Kansas City, MO, April 29, 2009.

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"Energy Conservation and Health in Residences Workshop", Indoor Air 2011, Austin, TX, June 6, 2011.

"Assessing IAQ and Improving Health in Residences", US EPA Weatherization Plus Health, September 7, 2011.

"Ventilation: What a Long Strange Trip It's Been", Westcon, May 21, 2014.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures", Indoor Air 2014, Hong Kong, July, 2014.

"Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications", Indoor Air 2014, Hong Kong, July, 2014.

"Chemical Emissions from E-Cigarettes", IMF Health and Welfare Fair, Washington, DC, February 18, 2015.

"Chemical Emissions and Health Hazards Associated with E-Cigarettes", Roswell Park Cancer Institute, Buffalo, NY, August 15, 2014.

"Formaldehyde Indoor Concentrations, Material Emission Rates, and the CARB ATCM", Harris Martin's Lumber Liquidators Flooring Litigation Conference, WQ Minneapolis Hotel, May 27, 2015.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposure", FDA Public Workshop: Electronic Cigarettes and the Public Health, Hyattsville, MD June 2, 2015.

"Creating Healthy Homes, Schools, and Workplaces", Chautauqua Institution, Athenaeum Hotel, August 24, 2015.

"Diagnosing IAQ Problems and Designing Healthy Buildings", University of California Berkeley, Berkeley, CA, October 6, 2015.

"Diagnosing Ventilation and IAQ Problems in Commercial Buildings", BEST Center Annual Institute, Lawrence Berkeley National Laboratory, January 6, 2016.

"A Review of Studies of Ventilation and Indoor Air Quality in New Homes and Impacts of Environmental Factors on Formaldehyde Emission Rates From Composite Wood Products", AIHce2016, May, 21-26, 2016.

"Admissibility of Scientific Testimony", Science in the Court, Proposition 65 Clearinghouse Annual Conference, Oakland, CA, September 15, 2016.

"Indoor Air Quality and Ventilation", ASHRAE Redwood Empire, Napa, CA, December 1, 2016.

Exhibit B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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January 16, 2020

Michael Lozeau
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1939 Harrison Street, Suite 150
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Subject: Comments on the De Anza Hotel Project (SCH No. 2019079010)

Dear Mr. Lozeau,

We have reviewed the July 2019 Public Review Draft Initial Study ("IS") for the De Anza Hotel Project ("Project") located in the City of Cupertino ("City"). The Project proposes to construct a 129,000 square foot hotel, an 88,000 square foot subterranean parking garage, and an 18,000 square foot driveway and surface parking lot on the 1.29-acre site.

Our review concludes that the IS fails to adequately evaluate the Project's Air Quality, Health Risk, and Greenhouse Gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality and health risk impacts that the project may have on the surrounding environment.

Air Quality

Incorrect Analysis of Project Construction Emissions

The Bay Area Air Quality Management District ("BAAQMD") provides significance thresholds to evaluate air pollutant emissions in the form of pounds per day (lbs/day). In order to compare the Project's air pollutant emissions to these thresholds, the IS states,

> "Average daily emissions are based on the annual construction emissions divided by the total number of active construction days" (p. 4-11).

Thus, the IS converted the annual emissions measured in tons per year to pounds per year, and then divided them by the number of workdays of construction. However, this is incorrect. CalEEMod provides three types of output files – winter, summer, and annual. While the annual output files measure emissions in tons per year, both the winter and summer output files provide emissions estimates in pounds per day. Furthermore, CEQA requires the most conservative analysis, and the use of converted annual CalEEMod output files may underestimate emissions. Thus, the IS's conversion from the annual tons per year to pounds per day was unsubstantiated and incorrect. As such, the IS should have provided and utilized the emissions from the winter or summer CalEEMod output files in order to compare to the BAAQMD thresholds.

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2.[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act (CEQA) requires that such changes be justified by substantial evidence.[2] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions and make known which default values were changed as well as provide justification for the values selected.[3]

Review of the Project's air modeling, provided in the Revised Appendix A to the IS, demonstrates that the IS underestimates emissions associated with Project activities. As previously stated, the IS air quality analysis relies on air pollutant emissions calculated using CalEEMod. When reviewing the Project's CalEEMod output files, provided as Appendix A to the IS, we found that several of the values inputted into the model were not consistent with information disclosed in the IS. As a result, the Project's construction and operational emissions are underestimated. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Underestimated Land Use Sizes

Review of the Project's CalEEMod output files demonstrates that the floor surface area values of the proposed parking lot and hotel land uses were underestimated within the model, and as a result, the model may underestimate the Project's emissions.

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[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.
[2] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 1, 9.
[3] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, fn 1, p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.

According to the IS, the Project proposes to construct an 18,000-square-foot driveway and surface parking lot (p. 3-25). However, review of the CalEEMod output files reveals that only 860-square-feet of parking lot were included in the model (see excerpt below) (Revised Appendix A, pp. 93, 135). Furthermore, according to the IS, the Project proposes to construct a 129,000-square-foot hotel building (p. 3-25). However, review of the CalEEMod output files reveals that only 122,256-square-feet of hotel were included in the model (see excerpt below) (Revised Appendix A, pp. 93, 135).

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.85	1000sqft	0.30	0.00	0
Parking Lot	0.86	1000sqft	0.02	860.00	0
Hotel	156.00	Room	0.42	122,256.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

As you can see in the excerpt above, the model underestimated the parking lot land use size by approximately 17,140-square-feet and the hotel land use size by approximately 6,744-square-feet. As previously stated, the land use type and size features are used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations.[4] The square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). By underestimating the floor surface areas of the proposed parking lot and hotel land uses, the model underestimates the Project's construction and operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Reduction in Intensity Factors

Review of the Project's CalEEMod output files demonstrates that the default values for the CO_2, CH_4, and N_2O intensity factors were manually changed without justification. As a result, the Project's operational emissions may be underestimated.

Review of the Project's CalEEMod output files demonstrates that the model's CO_2 intensity factor was artificially reduced from 641.35 to 10.84, the CH_4 intensity factor was reduced from 0.029 to 0, and the N_2O intensity factor was reduced from 0.006 to 0 (see excerpt below) (Revised Appendix A, pp. 96, 138).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0

[4] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 18.

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[5] According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is: "Carbon Intensity factors adjusted for Silicon Valley Clean Energy Power" (Revised Appendix A, pp. 94, 136). Furthermore, the IS states that Silicon Valley Clean Energy will supply electricity to the Project site (p. 4-30). However, neither the IS nor its associated appendices provide a citation or further justification for the updated carbon intensity factors. As a result, we cannot verify these altered values, and the model may underestimate the Project's emissions.

Failure to Account for Total Amount of Material Export

Review of the Project's CalEEMod output files demonstrates that the IS's model failed to include the total amount of material export expected to occur during Project construction. As a result, the Project's construction-related emissions may be underestimated.

According to the IS, "[t]he proposed Project would require up to 72,000 cubic yards of cut" (p. 3-25). However, review of the Project's CalEEMod output files demonstrates that only 71,054 cubic yards of material export were included in the model (see excerpt below) (Revised Appendix A, pp. 95, 137).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	71,054.00

As you can see in the excerpt above, the model underestimates the amount of material export by 946 cubic yards. This underestimation presents an issue, as the inclusion of the entire amount of material export within the model is necessary to calculate the emissions produced from material movement, including truck loading and unloading, and additional hauling truck trips.[6] Furthermore, despite the fact that the IS states that the Project would require *up to* 72,000 cubic yards of material export, CEQA requires the most conservative analysis. Thus, the total amount of possible material export should have been included. As a result, emissions generated during Project construction may be underestimated by the model.

Unsubstantiated Changes to Pieces of Construction Equipment

The IS's CalEEMod model includes several unsubstantiated reductions to the numbers of pieces of construction equipment. As a result, the model may underestimate the Project's construction emissions.

Review of the Project's CalEEMod output files demonstrates that the number of several pieces of construction equipment were reduced to zero (Revised Appendix A, pp. 95, 138).

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[5] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[6] CalEEMod User's Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2, p. 3, 26.

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[7] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "No grading soil haul equipment" (Revised Appendix A, pp. 94, 136). However, this change is not mentioned or justified in the IS and associated appendices. As a result, we cannot verify these reductions, and the model should not be relied upon to determine Project significance.

Unsubstantiated Changes to Fleet Mix

The IS's CalEEMod model includes several unsubstantiated changes to the Project's fleet mix percentage values, and as a result, the model may underestimate the Project's mobile-source operational emissions.

Review of the Project's CalEEMod output files demonstrates that several fleet mix percentage values were manually altered (Revised Appendix A, pp. 95, 137).

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	1.4360e-003
tblFleetMix	LDA	0.61	0.73
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.18	0.22
tblFleetMix	LHD1	0.01	9.8000e-004
tblFleetMix	LHD2	5.0070e-003	3.4100e-004
tblFleetMix	MCY	5.3120e-003	6.9240e-003
tblFleetMix	MDV	0.11	1.2050e-003
tblFleetMix	MH	7.4000e-004	0.00
tblFleetMix	MHD	0.01	8.5800e-004
tblFleetMix	OBUS	2.1440e-003	0.00
tblFleetMix	SBUS	6.2700e-004	0.00
tblFleetMix	UBUS	1.5480e-003	0.00

As you can see in the excerpt above, the fleet mix for the proposed Project was artificially changed in the model. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[8] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Refer to CalEEmod inputs fleet mix" (Revised Appendix A, pp. 94). However, the IS and associated appendices fail to mention or justify these changes. As a result, the model may underestimate the Project's mobile-related operational emissions.

[7] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

Unsubstantiated Changes to Wastewater Treatment System Percentages

Review of the Project's CalEEMod output files demonstrates that the wastewater treatment system percentages were manually altered (see excerpt below) (Revised Appendix A, pp. 96, 138, 139).

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	5,694,000.00
tblWater	IndoorWaterUseRate	3,144,609.26	4,158,737.00
tblWater	OutdoorWaterUseRate	439,690.68	7,117,500.00
tblWater	OutdoorWaterUseRate	200,719.74	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Refer to CalEEMod inputs" (Revised Appendix A, pp. 94, 136). However, the IS fails to justify this statement or mention the changes. According to the CalEEMod User's Guide, each type of wastewater treatment system is associated with different GHG emission factors.[10] Thus, artificially altering the wastewater treatment system percentages may result in an underestimation of the Project's GHG emissions. As a result, the model should be relied upon to determine Project significance.

Incorrect Indoor Water Use Rate

The indoor water use rate, used to estimate the proposed Project's GHG emissions associated with the supply and treatment of water, was incorrectly changed from the CalEEMod default value without sufficient justification.[11] As a result, the Project's operational emissions may be underestimated.

According to the IS, "[t]he estimated water demand is 156 hotel rooms x 390 square foot per room x 0.50 gpd/sf for a total of 30,420 gpd" (p. 4-93). Converted, this correlates with an indoor water use rate of 11,103,300 gallons per year (gpy).[12] However, review of the Project's CalEEMod output files demonstrates that only 82,125 gpy were inputted into the model for the hotel land use (see excerpt below) (Revised Appendix A, pp. 138).

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[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[10] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 45

[11] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 44-45.

[12] Indoor Water Use Rate = 30,420 gpd x 365 days per year = 11,103,300 gpy

Table Name	Column Name	Default Value	New Value
tblWater	IndoorWaterUseRate	3,957,216.12	82,125.00

As you can see in the excerpt above, the indoor water use rate was underestimated by approximately 11,021,175 gpy. As previously stated, the CalEEMod User's Guide requires that any non-default values inputted must be justified.[13] However, according to the IS, the indoor water use rate should have been 30,420 gpd, or 11,103,300 gpy (p. 4-93). According to the "User Entered Comments & Non-Default Data" table, these changes are justified by stating: "Refer to CalEEMod inputs" (Revised Appendix A, pp. 136). However, this fails to substantiate the changes or justify a different indoor water use rate than was specified in the IS. Thus, the CalEEMod is incorrect and underestimates the hotel land use's indoor water use rate.

Furthermore, while the IS provides data on the hotel land use's indoor water use rate, the IS fails to provide an indoor water use rate for the Project's other proposed land uses. However, review of the Project's CalEEMod output files demonstrates that the indoor water use rate for the Quality Restaurant land use was artificially altered without justification (see excerpt below) (Revised Appendix A, pp. 138).

Table Name	Column Name	Default Value	New Value
tblWater	IndoorWaterUseRate	3,144,609.26	4,158,737.00

As you can see in the excerpt above, the indoor water use rate was manually changed for the proposed Quality Restaurant land use. As previously stated, the CalEEMod User's Guide requires that any non-default values inputted must be justified.[14] However, review of the IS demonstrates that this change was not mentioned or substantiated. As a result, we cannot verify this change and the model may underestimate the Project's water-related operational emissions.

Unsubstantiated Changes to Solid Waste Generation Rates

The solid waste generation rates, used to estimate the proposed Project's operational greenhouse gas (GHG) emissions associated with the disposal of solid waste into landfills, were artificially changed from the CalEEMod default values without sufficient justification. [15] As a result, the model may underestimate the Project's operational emissions.

Review of the Project's CalEEMod output files demonstrates that the proposed Project's solid waste generation rates were manually changed without adequate justification (see excerpt below) (Revised Appendix A, pp. 138).

[13] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 7, 13.

[14] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 7, 13.

[15] CalEEMod User's Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 46

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	85.41	56.94
tblSolidWaste	SolidWasteGenerationRate	9.45	153.58

As you can see in the excerpt above, the solid waste generation rates were artificially altered from the default values. As previously stated, the CalEEMod User's Guide requires that any non-default values inputted must be justified.[16] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Refer to CalEEMod inputs" (Revised Appendix A, pp. 136). However, the IS fails to justify or mention these changes. As a result, these changes cannot be verified and we find the Project's air quality model to be unreliable for determining Project significance.

Unsubstantiated Application of Construction Mitigation Measure

Review of the Project's CalEEMod output files demonstrates that the model includes an unsubstantiated construction mitigation measure, and as a result, the model may underestimate the Project's construction-related emissions.

Review of the Project's CalEEMod output files reveals that the model includes a 9% reduction of particulate matter emissions as a result of the "Clean Paved Roads" mitigation measure (see excerpt below) (Revised Appendix A, pp. 94, 134).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9

As you can see in the excerpt above, the model includes a 9% reduction off particulate matter from the mitigation measure "Clean Paved Roads." As previously stated, the CalEEMod User's Guide requires that any non-default values inputted must be justified.[17] While the IS mentions sweeping paved roads, it fails to justify or mention the 9% reduction (p. 4-11). Furthermore, the "User Entered Comments & Non-Default Data" table fails to justify the inclusion of this mitigation measure. Thus, the reduction cannot be verified, and as a result, the model may underestimate the Project's construction emissions.

Unsubstantiated Application of Water-related Operational Mitigation Measures

Review of the Project's CalEEMod output files reveals that the model included several water-related mitigation measures without sufficient justification, and as a result, the Project's operational emissions may be underestimated.

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[16] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 7, 13.

[17] CalEEMod User Guide, p. 7, p. 13, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4 (A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.)

The Project's CalEEMod output files demonstrate that the Project's emissions were modeled with several unsubstantiated water-related mitigation measures (see excerpt below) (Revised Appendix A, pp. 129).

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

As you can see in the excerpt above, the Project's operational emissions were modeled including the following water-related mitigation measures: "Install Low Flow Bathroom Faucet," "Install Low Flow Kitchen Faucet," "Install Low Flow Toilet," and "Install Low Flow Shower" (Revised Appendix A, pp. 129). As previously stated, the CalEEMod User's Guide requires that any non-default values inputted must be justified.[18] However, the "User Entered Comments & Non-Default Data" table fails to mention or provide a justification for the inclusion of these mitigation measures. Additionally, the IS fails to address these mitigation measures. As a result, we cannot verify the inclusion of these measures in the model, and the model should not be relied upon to determine Project significance.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The IS conducts a construction health risk assessment (HRA) and determines that, after mitigation, the construction-related health risk posed to the maximally exposed individual receptor (MEIR) would be approximately 5.1 in one million (see excerpt below) (p. 4-16, Table 4-5).

TABLE 4-5 CONSTRUCTION RISK SUMMARY – MITIGATED

Receptor	Cancer Risk (per million)	Chronic Hazards	$PM_{2.5}$ (µg/m³)ᵃ
Maximum Exposed Receptor – Offsite Residences	5.1	0.015	0.03
BAAQMD Threshold	10	1.0	0.3
Exceeds Threshold?	No	No	No

Risks incorporate Mitigation Measure AQ-2, which includes using construction equipment with Level 3 Diesel Particulate Filters for equipment over 50 horsepower.
Note: Cancer risk calculated using 2015 Office of Environmental Health Hazard Assessment Health Risk Assessment guidance.

However, the IS's analysis is incorrect, as the construction HRA relies on an unsubstantiated air model that underestimates the Project's emissions. As a result, the IS's construction HRA should not be relied upon to determine the Project's significance.

[18] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 7, 13.

Furthermore, review of the IS demonstrates that the IS failed to conduct a quantified HRA for Project operation, stating:

> "[I]mplementation of the proposed project would not result in creation of land uses that would generate substantial concentrations of TACs... Development of the proposed hotel may result in stationary sources of TACs emissions from the restaurant's use of charbroilers, or emergency generators and boilers. However, these sources are not considered to be large emitters... [H]otel-related truck deliveries would be less than CARB's recommended advisory criteria for distribution centers (100 trucks per day)... [I]mpacts related to TACs are considered *less than significant*." (p. 4-16, 4-17).

However, these justifications and subsequent less than significant impact conclusion are incorrect. By failing to prepare an operational HRA, the IS is inconsistent with recommendations set forth by the Office of Environmental Health and Hazard Assessment's (OEHHA) most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, as cited by the IS (Appendix B, p. 2). The OEHHA guidance document describes the types of projects that warrant the preparation of a health risk assessment.[19] Once construction of the Project is complete, the Project will operate for a long period of time. During operation, the Project will generate vehicle trips, which will generate additional exhaust emissions, thus continuing to expose nearby sensitive receptors to emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR).[20] Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, health risks from Project operation should have also been evaluated by the IS, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. These recommendations reflect the most recent health risk policy, and as such, an updated assessment of health risks posed to nearby sensitive receptors from Project operation should be included in a revised CEQA evaluation for the Project.

Furthermore, the IS fails to sum the cancer risk calculated for each age group. According to OEHHA guidance, "the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk at the receptor location."[21] However, review of the construction HRA conducted in the IS demonstrates that the IS failed to sum each age bin to evaluate the total cancer risk over the course of the Project's lifetime. This is incorrect and thus, an updated analysis should quantify the Project's

[19] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

[20] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-6, 8-15.

[21] "Guidance Manual for preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-4

construction and operational health risks and then sum them to compare to the BAAQMD threshold of 10 in one million.[22]

In an effort to demonstrate the potential risk posed by the Project to nearby sensitive receptors, we prepared a simple screening-level operational HRA. The results of our assessment, as described below, demonstrate that construction and operational DPM emissions may result in a potentially significant health risk impact that was not previously identified or evaluated within the IS.

Screening-Level Assessment Indicates Significant Impact

In an effort to demonstrate the potential health risk posed by Project construction and operation to nearby sensitive receptors, we prepared a simple screening-level HRA. The results of our assessment, as described below, provide substantial evidence that the Project's construction and operational DPM emissions may result in a potentially significant health risk impact that was not previously identified.

In order to conduct our screening level risk assessment, we relied upon AERSCREEN, which is a screening level air quality dispersion model.[23] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[24] and the California Air Pollution Control Officers Associated (CAPCOA)[25] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary HRA of the Project's construction and operational health-related impacts to sensitive receptors using the annual PM_{10} exhaust estimates from the SWAPE annual CalEEMod output files. According to the IS, there is a residential receptor located approximately 225 feet, or 69 meters, east of the Project site (p. 4-60, Table 4-7). However, review of Google Earth demonstrates that there are sensitive receptors roughly 50 meters east of the Project site. Consistent with recommendations set forth by OEHHA, as cited by the IS, we assumed that residential exposure begins during the third trimester stage of life. The SWAPE construction CalEEMod output files indicate that construction activities will generate approximately 127 pounds of DPM over the approximately 592-day construction period. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

[22] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en
[23] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[24] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf
[25] "Health Risk Assessments for Proposed Land Use Projects," CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{126.6\ lbs}{592\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.001123\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.001123 grams per second (g/s). Subtracting the 592-day construction duration from the total residential duration of 30 years, we assumed that after Project construction, the MEIR would be exposed to the Project's operational DPM for an additional 28.4 years approximately. SWAPE's updated operational CalEEMod emissions indicate that operational activities will generate approximately 81 pounds of DPM per year throughout operation. Applying the same equation used to estimate the construction DPM rate, we estimated the following emission rate for Project operation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{80.8\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00116\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.00116 g/s. Construction and operational activity was simulated as a 1.29-acre rectangular area source in AERSCREEN with dimensions of 95 meters by 55 meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[26] As previously stated, there are residential receptors located approximately 50 meters from the Project boundary. The single-hour concentration estimated by AERSCREEN for Project construction is approximately 5.141 $\mu g/m^3$ DPM at approximately 50 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.5141 $\mu g/m^3$ for Project construction at the nearest sensitive receptor. For Project operation, the single-hour concentration estimated by AERSCREEN is 5.321 $\mu g/m^3$ DPM at approximately 25 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.5321 $\mu g/m^3$ for Project operation at the nearest sensitive receptor.

We calculated the excess cancer risk to the residential receptors located closest to the Project site using applicable HRA methodologies prescribed by OEHHA and the BAAQMD. Consistent with the construction schedule proposed by the IS's CalEEMod output files, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.37 years of the infantile stage of life (0 – 2 years). The annualized average concentration for operation was used for

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[26] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." EPA, 1992, *available at*: http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf; *see also* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 4-36.

the remainder of the 30-year exposure period, which makes up the remainder of the infantile stage of life (2 – 16 years), child stage of life (2 – 16 years) and adult stage of life (16 – 30 years). Consistent with the methodology utilized by the IS, we utilized age sensitivity factors (Appendix B, p. 2). Thus, we multiplied the quantified cancer risk by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant) and by a factor of three during the child stage of life (2 to 16 years). Furthermore, in accordance with guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[27] Finally, according to BAAQMD guidance, we used a Fraction of Time At Home (FAH) value of 0.85 for the 3rd trimester and infant receptors, 0.72 for child receptors, and 0.73 for the adult receptors.[28] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days. Consistent with OEHHA guidance, exposure to the sensitive receptor was assumed to begin in the third trimester to provide the most conservative estimate of air quality hazards. The results of our calculations are shown below.

The Closest Exposed Individual at an Existing Residential Receptor					
Activity	**Duration (years)**	**Concentration (ug/m3)**	**Breathing Rate (L/kg-day)**	**ASF**	**Cancer Risk with ASFs***
Construction	0.25	0.5141	361	10	5.9E-06
3rd Trimester Duration	***0.25***			***3rd Trimester Exposure***	***5.9E-06***
Construction	1.37	0.5141	1090	10	9.8E-05
Operation	0.63	0.5321	1090	10	4.7E-05
Infant Exposure Duration	***2.00***			***Infant Exposure***	***1.5E-04***
Operation	14.00	0.5321	572	3	1.4E-04
Child Exposure Duration	***14.00***			***Child Exposure***	***1.4E-04***
Operation	14.00	0.5321	261	1	2.1E-05
Adult Exposure Duration	***14.00***			***Adult Exposure***	***2.1E-05***
Lifetime Exposure Duration	**30.00**			**Lifetime Exposure**	**3.1E-04**

[27] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 19.
"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

[28] "Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines." BAAQMD, January 2016, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en

As indicated in the table above, the excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest receptor, located approximately 50 meters away, over the course of Project construction and operation, are approximately 21, 140, 150, and 5.9 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years) at the closest receptor is approximately 310 in one million, thus resulting in a potentially significant health risk impact not previously addressed or identified by the IS.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. [29] The purpose of the screening-level construction HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level construction HRA indicates a potentially significant impact, the City should prepare an EIR with a revised HRA which makes a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, the City should prepare an updated, quantified air pollution model as well as an updated, quantified refined health risk assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS concludes that the Project's emissions would exceed the BAAQMD bright line threshold, and subsequently proposes mitigation. Specifically, the IS states:

> "Because the project's net increase in long-term emissions of 1,272 $MTCO_2e$ exceeds BAAQMD's bright-line threshold of 1,100 $MTCO_2e$ per year... the following mitigation measure is proposed" (p. 4-39).

The IS goes on to state:

> "As a result of implementation of Mitigation Measure GHG-1, emissions from the proposed project would not exceed the BAAQMD's bright-line threshold. Therefore, the impact would be less than significant" (p. 4-39).

Finally, the Project evaluates the Project's consistency with the CARB Scoping Plan, the Plan Bay Area 2040, and Cupertino's CAP in order to determine that the Project would have a less than significant impact (p. 4-40). Thus, the IS relies upon the implementation of Mitigation Measure GHG-1 to reduce the Project's GHG impact to a less than significant level, as well as consistency with the above-mentioned plans.

[29] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 1-5

However, this analysis and subsequent less than significant impact conclusion is incorrect for several reasons.

(1) The CARB Scoping Plan and the Plan Bay Area cannot be relied upon to determine Project significance;
(2) The Project fails to demonstrate consistency with the Cupertino CAP;
(3) The IS's incorrect and unsubstantiated analysis indicates a potentially significant GHG impact; and,
(4) Updated analysis indicates significant impact.

(1) The CARB Scoping Plan and Plan Bay Area are not CAPs

The IS determines that the Project demonstrates consistency with the CARB Scoping Plan and Plan Bay Area. However, these policies do not qualify as Climate Action Plans (CAPs). CEQA Guidelines § 15064.4(b)(3) allows a lead agency to consider "[t]he extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (*see, e.g., section 15183.5(b)*)." (Emph. added). When adopting this language, the California Natural Resources Agency ("Resources Agency") explained in its 2018 Final Statement of Reasons for Regulatory Action ("2018 Statement of Reason")[30] that it explicitly added referenced to section 15183.5(b) because it was "needed to clarify that lead agencies may rely on plans *prepared pursuant to section 15183.5* in evaluating a project's [GHG] emissions ... [and] consistent with the Agency's Final Statement of Reasons for the addition of section 15064.4, which states that 'proposed section 15064.4 is intended to be *read in conjunction with . . . proposed section 15183.5*. Those sections each indicate that local and regional plans may be developed to reduce GHG emissions.'" 2018 Final Statement of Reason, p. 19 (emph. added); *see also* 2009 Final Statement of Reasons for Regulatory Action, p. 27.[31] When read in conjunction, CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans (also commonly referred to as a Climate Action Plan ["CAP"]) should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);
(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;

[30] Resources Agency (Nov. 2018) Final Statement of Reasons For Regulatory Action: Amendments To The State CEQA Guidelines, http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.
[31] Resources Agency (Dec. 2009) Final Statement of Reasons for Regulatory Action, p. 27 ("Those sections each indicate that local and regional plans may be developed to reduce GHG emissions. If such plans reduce community-wide emissions to a level that is less than significant, a later project that complies with the requirements in such a plan may be found to have a less than significant impact."), http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels;

The above-listed CAP features provide the necessary *substantial evidence demonstrating a project's incremental contribution is not cumulative considerable*, as required under CEQA Guidelines § 15064.4(b)(3).[32] Here, however, the IS fails to demonstrate that the plans and policies include the above-listed requirements to be considered a qualified CAP for the City. As such, the IS leaves an analytical gap showing that compliance with said plans can be used for a project-level significance determination. Thus, the IS's GHG analysis regarding the CARB Scoping Plan and Plan Bay Area should not be relied upon to determine Project significance.

(2) The Cupertino CAP Cannot be Relied upon to Determine Project Significance:

As discussed above, the IS relies on the Project's consistency with the Cupertino CAP to determine that the Project's GHG impact would be less than significant. Specifically, the IS states,

> "Development in the Cupertino, including the proposed project, is required to adhere to City-adopted policy provisions, including those contained in the adopted CAP. The City ensures that the provisions of the Cupertino CAP are incorporated into projects and their permits through development review and applications of conditions of approval as applicable. Therefore, the impact would be *less than significant*" (p. 4-43).

However, the CAP fails to provide specific, project-level measures. Instead, the CAP provides "community-wide" measures with quantified GHG reduction potentials. Regardless, the IS fails to demonstrate consistency with all of the CAP's "community-wide" measures and associated GHG reduction potentials (see table below).

[32] *See Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 200-201 (Upheld qualitative GHG analysis when based on city's adopted its greenhouse gas strategy that contained "multiple elements" of CEQA Guidelines § 15183.5(b), "quantification of [city's] baseline levels of [GHG] emissions and planned reductions[,]" approved by the regional air district, and "[a]t the heart" of the city's greenhouse gas strategy was "specific regulations" and measures to be implemented on a "project-by-project basis ... designed to achieve the specified citywide emission level.").

Measure	IS Consistency
Cupertino CAP	
Community-Wide Measures	
Measure C-E-1 Energy Use Data and Analysis *Increase resident and building owner/tenant/operator knowledge about how, when, and where building energy is used.* *2035 GHG Reduction Potential: 850 MT CO_2e/yr*	Here, the IS fails to address owner/tenant/operator knowledge about how, when, and where building energy is used. The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-E-2 Retrofit Financing *Promote existing and support development of new private financing options for home and commercial building retrofits and renewable energy development.* *2035 GHG Reduction Potential: 10,525 MT CO_2e/yr*	Here, the IS fails to address new or existing private financing options for home and commercial building retrofits and renewable energy development. The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-E-3 Home & Commercial Building Retrofit Outreach *Develop aggressive outreach program to drive voluntary participation in energy- and water-efficiency retrofits.* *Supporting Measure*	Here, the IS fails to address outreach programs to drive voluntary participation in energy- and water-efficiency retrofits.
Measure C-E-4 Energy Assurance & Resiliency Plan *Develop a long-term community-wide energy conservation plan that considers future opportunities to influence building energy efficiency through additional or enhanced building regulations.* *Supporting Measure*	Here, the IS fails to address a long-term community-wide energy conservation plan. The IS also fails to mention future opportunities to influence building energy efficiency through additional or enhanced building regulations.

Measure C-E-5 Community-Wide Solar Photovoltaic Development *Encourage voluntary community-wide solar photovoltaic development through regulatory barrier reduction and public outreach campaigns.* *2035 GHG Reduction Potential: 4,400 MT CO_2e/yr*	Here, while the IS mentions the potential for solar panels on the roof level, it fails to quantify these emissions or mention voluntary community-wide photovoltaic development through regulatory barrier reduction and public outreach campaigns (p. 3-13). The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-E-6 Community-Wide Solar Hot Water Development *Encourage communitywide solar hot water development through regulatory barrier reduction and public outreach campaigns.* *2035 GHG Reduction Potential: 925 MT CO_2e/yr*	Here, the IS fails to mention solar hot water development through regulatory barrier reduction and public outreach campaigns. The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-E-7 Community Choice Energy Option *Partner with other Santa Clara County jurisdictions to evaluate the development of a regional CCE option, including identification of the geographic scope, potential costs to participating jurisdictions and residents, and potential liabilities.* *2035 GHG Reduction Potential: 56,875 MT CO_2e/yr*	Here, the IS fails to mention partnering with other Santa Clara County jurisdictions or evaluating the development of a regional CCE option. The IS also fails to address the identification of the geographic scope, potential costs to participating jurisdictions and residentials, or potential liabilities. The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-T-2 Bikeshare Program *Explore feasibility of developing local bikeshare program.* *Supporting Measure*	Here, while the IS discusses bicycle facilities in the vicinity of the proposed Project and mentions that the Project would not conflict with the City's Bike Plan, the IS fails to address a bikeshare program (p. 4-83).

Measure C-T-3 Transportation Demand Management *Provide informational resources to local businesses subject to SB 1339 transportation demand management program requirements and encourage additional voluntary participation in the program.* *2035 GHG Reduction Potential: 2,375 MT CO_2e/yr*	Here, while the IS addresses a TDM program, the IS fails to mention SB 1339, informational resources, or encouraging additional voluntary participation in the program (p. 3-22). The IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-T-5 Transit Priority *Improve transit service reliability and speed.* *Supporting Measure*	Here, while the IS mentions local transit, it fails to discuss any improvements of transit service reliability and speed (p. 4-77).
Measure C-T-6 Transit-Oriented Development *Continue to encourage development that takes advantage of its location near local transit options (e.g., major bus stops) through higher densities and intensities to increase ridership potential.* *Supporting Measure*	Here, while the IS mentions transit, it fails to discuss encouraging development that takes advantage of its location near local transit options (p. 4-77). The IS also fails to address encouraging higher densities and intensities to increase ridership potential.
Measure C-T-7 Community-Wide Alternative Fuel Vehicles *Encourage community-wide use of alternative fuel vehicles through expansion of alternative vehicle refueling infrastructure.* *2035 GHG Reduction Potential: 10,225 MT CO_2e/yr*	Here, the IS fails to mention encouraging community-wide use of alternative fuel vehicles or alternative fuel refueling infrastructure. The IS also fails to address any quantified GHG reductions or potential for future reductions.

Measure C-SW-2 Food Scrap and Compostable Paper Diversion *Continue to promote the collection of food scraps and compostable paper through the City's organics collection program.* *2035 GHG Reduction Potential: 750 MT CO_2e/yr*	Here, while the IS mentions the existing composting program, it fails to specifically address food scraps or compostable paper (p. 3-24). The IS also fails to mention the City's organics collection program. Finally, the IS also fails to address any quantified GHG reductions or potential for future reductions.
Measure C-SW-3 Construction & Demolition Waste Diversion Program *Continue to enforce diversion requirements in City's Construction & Demolition Debris Diversion and Green Building Ordinances.* *2035 GHG Reduction Potential: 550 MT CO_2e/yr*	Here, the IS states: "[T]he City's Zero Waste Policy also requires that all private construction projects that come through the City's permitting process, and all City projects (through contract requirements), to recover and divert at least 65 percent of the construction waste generated by the project. Compliance with applicable statutes and regulations would ensure that the impact would be *less than significant,* and no mitigation measures would be required" (p. 4-97, 4-98). However, the IS fails to address any quantified GHG reductions. Furthermore, the IS failed to address how the City's policy would be enforced by the Project.
Measure C-G-1 Urban Forest Program *Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.* *2035 GHG Reduction Potential: 725 MT CO_2e/yr*	Here, the IS states: "The City recognizes that every tree on both public and private property is an important part of Cupertino's urban forest and contributes significant economic, environmental and aesthetic benefits of the community. All 11 existing trees will remain on the project site as part of the proposed project. The existing tree species are not native to California, nor indigenous to the project site" (p. 4-21). However, the IS fails to address any quantified GHG reductions resulting from this measure. Furthermore, simply maintaining the existing trees on the site does not constitute supporting the development and maintenance of a healthy, vibrant urban forest. Finally, there is no mention of the use of outreach, incentives, or strategic leadership to achieve this measure.

(3) Incorrect and Unsubstantiated Analysis Demonstrates Significant GHG Impact

As discussed above, the IS reports that the Project would result in annual GHG emissions of 1,272 MT CO_2e/year (MT CO_2e/yr) and concluded that, with the implementation of Mitigation Measure GHG-1, emissions from the Project would not exceed the BAAQMD bright-line threshold of 1,000 MT CO_2e/year (p. 4-39). However, this conclusion is incorrect for two reasons.

First, the IS's GHG analysis relies on an incorrect and unsubstantiated air model, as discussed above. This is incorrect, as the model underestimates the Project's GHG emissions.

Second, the IS cannot assume that the implementation of one mitigation measure would reduce the Project's GHG emissions to a less than significant level without quantifying impacts. Without any sort of quantified analysis of the mitigation measure and its associated reductions, the IS cannot claim a less than significant impact simply based on one mitigation measure. Until the City adequately quantifies the Project's GHG emissions, including the implementation of Mitigation Measure GHG-1, and demonstrates that the Project's GHG emissions would not exceed relevant BAAQMD thresholds, there is not substantial evidence that the Project's GHG impact would be less than significant.

(4) Updated Analysis Indicates Significant Impact

Applicable thresholds and site-specific modeling demonstrate that the Project may result in a potentially significant GHG impact. The updated CalEEMod output files, modeled by SWAPE with Project-specific information, disclose the Project's mitigated emissions, which include approximately 1,046 MT CO_2e of total construction emissions (sum of emissions from 2020, 2021, and 2022) and approximately 2,248 MT CO_2e/year of annual operational emissions (sum of area, energy, mobile, stationary, waste, and water-related emissions from both on-site and off-site operations). When we compare the total Project's GHG emissions, including construction emissions amortized over 30 years and operational emissions, to the BAAQMD bright-line threshold of 1,100 MT CO_2e/year,[33] we find that the Project's GHG emissions exceed the threshold (see table below).

SWAPE Annual Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Construction (amortized over 30 years)	34.85
Area	0.01
Energy	974.49
Mobile	1,183.11
Waste	47.71
Water	42.52
Total	**2,282.69**
Threshold	1,100
Exceed?	***Yes***

[33] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 2-4.

As demonstrated in the table above, the proposed Project would generate a total of approximately 2,283 MT CO_2e/year when modeled correctly, which exceeds the BAAQMD's 1,100 MT CO_2e/year threshold. Hence, a Tier 4 analysis is warranted. According to CAPCOA's CEQA & Climate Change report, service population is defined as "the sum of the number of residents and the number of jobs supported by the project."[34] Review of the IS demonstratres that the Project would result in no new residents and 78 new jobs (p. 1-4). Thus, the Project is estimated to have a service population of 78. When dividing the Project's GHG emissions by a service population value of 78 people, we find that the Project would emit approximately 29.3 MT CO_2e/SP/year.[35] This exceeds the BAAQMD 2030 substantial progress threshold of 2.6 MT CO_2e/SP/year (see table below).

SWAPE Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Annual Emissions	**2,282.69**
Service Population	78
Service Population Efficiency	**29.3**
Threshold	2.6
Exceed?	***Yes***

As the table above demonstrates, when correct input parameters are used to model Project emissions, the Project's total GHG emissions exceed the "Substantial Progress" efficiency threshold for 2030 of 2.6 MT CO_2e/SP/year, thus resulting in a significant impact not previously assessed or identified in the IS. As a result, an updated GHG analysis should be prepared in a Project-specific EIR and additional mitigation should be incorporated into the Project.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

[34] CAPCOA (Jan. 2008) CEQA & Climate Change, p. 71-72, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf.

[35] Calculated: (2,283 MT CO_2e/year) / (78 service population) = (29.3 MT CO_2e/SP/year).

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

De Anza Construction & Operation 2022 - HRA Mitigation

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00

tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

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					
2020	0.1759	2.5658	1.1145	5.5400e-003	0.2768	0.0591	0.3359	0.1153	0.0558	0.1711	0.0000	518.5810	518.5810	0.0449	0.0000	519.7039
2021	0.2970	2.3722	2.1497	5.3600e-003	0.1458	0.0913	0.2370	0.0396	0.0881	0.1277	0.0000	469.7131	469.7131	0.0506	0.0000	470.9768
2022	0.7833	0.2583	0.2684	6.3000e-004	0.0161	0.0101	0.0262	4.3700e-003	9.7000e-003	0.0141	0.0000	54.7272	54.7272	6.7700e-003	0.0000	54.8964
Maximum	**0.7833**	**2.5658**	**2.1497**	**5.5400e-003**	**0.2768**	**0.0913**	**0.3359**	**0.1153**	**0.0881**	**0.1711**	**0.0000**	**518.5810**	**518.5810**	**0.0506**	**0.0000**	**519.7039**

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					
2020	0.1759	2.5658	1.1145	5.5400e-003	0.2768	0.0278	0.3046	0.1153	0.0266	0.1418	0.0000	518.5809	518.5809	0.0449	0.0000	519.7038
2021	0.2970	2.3722	2.1497	5.3600e-003	0.1458	0.0633	0.2091	0.0396	0.0609	0.1005	0.0000	469.7128	469.7128	0.0506	0.0000	470.9765
2022	0.7833	0.2583	0.2684	6.3000e-004	0.0161	6.3900e-003	0.0225	4.3700e-003	6.1600e-003	0.0105	0.0000	54.7272	54.7272	6.7700e-003	0.0000	54.8963
Maximum	**0.7833**	**2.5658**	**2.1497**	**5.5400e-003**	**0.2768**	**0.0633**	**0.3046**	**0.1153**	**0.0609**	**0.1418**	**0.0000**	**518.5809**	**518.5809**	**0.0506**	**0.0000**	**519.7038**

	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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	39.22	10.50	0.00	39.02	19.16	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-3-2020	11-2-2020	3.6039	3.6039
2	11-3-2020	2-2-2021	0.7145	0.7145
3	2-3-2021	5-2-2021	0.6506	0.6506
4	5-3-2021	8-2-2021	0.6701	0.6701
5	8-3-2021	11-2-2021	0.6715	0.6715
6	11-3-2021	2-2-2022	0.6551	0.6551
7	2-3-2022	5-2-2022	0.7591	0.7591
		Highest	3.6039	3.6039

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Energy	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	969.8418	969.8418	0.0329	0.0128	974.4919
Mobile	0.4132	1.8226	5.1890	0.0186	1.7360	0.0156	1.7516	0.4647	0.0146	0.4793	0.0000	1,702.092 8	1,702.092 8	0.0554	0.0000	1,703.478 1
Waste						0.0000	0.0000		0.0000	0.0000	19.2557	0.0000	19.2557	1.1380	0.0000	47.7052
Water						0.0000	0.0000		0.0000	0.0000	4.5202	23.0800	27.6002	0.4653	0.0112	42.5641
Total	**1.0826**	**2.2084**	**5.5157**	**0.0209**	**1.7360**	**0.0449**	**1.7809**	**0.4647**	**0.0439**	**0.5086**	**23.7759**	**2,695.019 8**	**2,718.795 7**	**1.6916**	**0.0240**	**2,768.245 0**

2.2 Overall Operational

Mitigated Operational

	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					
Area	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Energy	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	969.8418	969.8418	0.0329	0.0128	974.4919
Mobile	0.4132	1.8226	5.1890	0.0186	1.7360	0.0156	1.7516	0.4647	0.0146	0.4793	0.0000	1,702.0928	1,702.0928	0.0554	0.0000	1,703.4781
Waste						0.0000	0.0000		0.0000	0.0000	19.2557	0.0000	19.2557	1.1380	0.0000	47.7052
Water						0.0000	0.0000		0.0000	0.0000	4.5202	23.0800	27.6002	0.4653	0.0112	42.5641
Total	**1.0826**	**2.2084**	**5.5157**	**0.0209**	**1.7360**	**0.0449**	**1.7809**	**0.4647**	**0.0439**	**0.5086**	**23.7759**	**2,695.0198**	**2,718.7957**	**1.6916**	**0.0240**	**2,768.2450**

	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**	**N20**	**CO2e**
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		5.7600e-003	5.7600e-003		5.3800e-003	5.3800e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
Total	**0.0106**	**0.1047**	**0.0733**	**1.2000e-004**	**6.8900e-003**	**5.7600e-003**	**0.0127**	**1.0400e-003**	**5.3800e-003**	**6.4200e-003**	**0.0000**	**10.5338**	**10.5338**	**2.7100e-003**	**0.0000**	**10.6015**

3.2 Demolition - 2020

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**6.3000e-004**	**0.0139**	**4.5900e-003**	**4.0000e-005**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**3.6000e-004**	**5.0000e-005**	**4.1000e-004**	**0.0000**	**3.9777**	**3.9777**	**1.7000e-004**	**0.0000**	**3.9820**

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					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		1.7100e-003	1.7100e-003		1.6500e-003	1.6500e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
Total	**0.0106**	**0.1047**	**0.0733**	**1.2000e-004**	**6.8900e-003**	**1.7100e-003**	**8.6000e-003**	**1.0400e-003**	**1.6500e-003**	**2.6900e-003**	**0.0000**	**10.5338**	**10.5338**	**2.7100e-003**	**0.0000**	**10.6015**

3.2 Demolition - 2020

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**6.3000e-004**	**0.0139**	**4.5900e-003**	**4.0000e-005**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**3.6000e-004**	**5.0000e-005**	**4.1000e-004**	**0.0000**	**3.9777**	**3.9777**	**1.7000e-004**	**0.0000**	**3.9820**

3.3 Site Preparation - 2020

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					0.0145	0.0000	0.0145	7.3800e-003	0.0000	7.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0700e-003	0.0459	0.0193	4.0000e-005		2.0500e-003	2.0500e-003		1.8900e-003	1.8900e-003	0.0000	3.7816	3.7816	1.2200e-003	0.0000	3.8122
Total	**4.0700e-003**	**0.0459**	**0.0193**	**4.0000e-005**	**0.0145**	**2.0500e-003**	**0.0166**	**7.3800e-003**	**1.8900e-003**	**9.2700e-003**	**0.0000**	**3.7816**	**3.7816**	**1.2200e-003**	**0.0000**	**3.8122**

3.3 Site Preparation - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

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					0.0145	0.0000	0.0145	7.3800e-003	0.0000	7.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0700e-003	0.0459	0.0193	4.0000e-005		3.1000e-004	3.1000e-004		2.8000e-004	2.8000e-004	0.0000	3.7816	3.7816	1.2200e-003	0.0000	3.8122
Total	**4.0700e-003**	**0.0459**	**0.0193**	**4.0000e-005**	**0.0145**	**3.1000e-004**	**0.0148**	**7.3800e-003**	**2.8000e-004**	**7.6600e-003**	**0.0000**	**3.7816**	**3.7816**	**1.2200e-003**	**0.0000**	**3.8122**

3.3 Site Preparation - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

3.4 Grading - 2020

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					0.0678	0.0000	0.0678	0.0372	0.0000	0.0372	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0678**	**0.0103**	**0.0780**	**0.0372**	**9.4400e-003**	**0.0467**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7347**

3.4 Grading - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	6.8300e-003	1.8200e-003	2.0000e-005	3.9000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.5000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**6.4000e-004**	**7.1200e-003**	**4.8200e-003**	**3.0000e-005**	**1.3400e-003**	**4.0000e-005**	**1.3900e-003**	**3.6000e-004**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**2.3848**	**2.3848**	**9.0000e-005**	**0.0000**	**2.3871**

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					0.0678	0.0000	0.0678	0.0372	0.0000	0.0372	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7346
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0678**	**1.5400e-003**	**0.0693**	**0.0372**	**1.4200e-003**	**0.0387**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7346**

3.4 Grading - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	6.8300e-003	1.8200e-003	2.0000e-005	3.9000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.5000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**6.4000e-004**	**7.1200e-003**	**4.8200e-003**	**3.0000e-005**	**1.3400e-003**	**4.0000e-005**	**1.3900e-003**	**3.6000e-004**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**2.3848**	**2.3848**	**9.0000e-005**	**0.0000**	**2.3871**

3.5 Grading Soil Haul - 2020

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					0.0718	0.0000	0.0718	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0718**	**0.0103**	**0.0821**	**0.0379**	**9.4400e-003**	**0.0473**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7347**

3.5 Grading Soil Haul - 2020

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	0.0374	1.3058	0.2674	3.5500e-003	0.0763	4.2400e-003	0.0805	0.0210	4.0600e-003	0.0250	0.0000	343.2186	343.2186	0.0157	0.0000	343.6111
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**0.0378**	**1.3061**	**0.2704**	**3.5600e-003**	**0.0772**	**4.2500e-003**	**0.0815**	**0.0212**	**4.0700e-003**	**0.0253**	**0.0000**	**344.0348**	**344.0348**	**0.0157**	**0.0000**	**344.4278**

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					0.0718	0.0000	0.0718	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7346
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0718**	**1.5400e-003**	**0.0734**	**0.0379**	**1.4200e-003**	**0.0393**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7346**

3.5 Grading Soil Haul - 2020

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	0.0374	1.3058	0.2674	3.5500e-003	0.0763	4.2400e-003	0.0805	0.0210	4.0600e-003	0.0250	0.0000	343.2186	343.2186	0.0157	0.0000	343.6111
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**0.0378**	**1.3061**	**0.2704**	**3.5600e-003**	**0.0772**	**4.2500e-003**	**0.0815**	**0.0212**	**4.0700e-003**	**0.0253**	**0.0000**	**344.0348**	**344.0348**	**0.0157**	**0.0000**	**344.4278**

3.6 Building Construction - 2020

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	0.0650	0.4732	0.4220	7.1000e-004		0.0255	0.0255		0.0246	0.0246	0.0000	58.0935	58.0935	0.0108	0.0000	58.3631
Total	**0.0650**	**0.4732**	**0.4220**	**7.1000e-004**		**0.0255**	**0.0255**		**0.0246**	**0.0246**	**0.0000**	**58.0935**	**58.0935**	**0.0108**	**0.0000**	**58.3631**

3.6 Building Construction - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1530	0.0408	3.7000e-004	8.8400e-003	7.6000e-004	9.6000e-003	2.5600e-003	7.3000e-004	3.2800e-003	0.0000	35.1379	35.1379	1.6100e-003	0.0000	35.1782
Worker	0.0113	8.1000e-003	0.0849	2.6000e-004	0.0269	1.7000e-004	0.0271	7.1500e-003	1.6000e-004	7.3100e-003	0.0000	23.0707	23.0707	5.7000e-004	0.0000	23.0848
Total	**0.0166**	**0.1611**	**0.1257**	**6.3000e-004**	**0.0357**	**9.3000e-004**	**0.0367**	**9.7100e-003**	**8.9000e-004**	**0.0106**	**0.0000**	**58.2086**	**58.2086**	**2.1800e-003**	**0.0000**	**58.2630**

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	0.0650	0.4732	0.4220	7.1000e-004		0.0174	0.0174		0.0168	0.0168	0.0000	58.0934	58.0934	0.0108	0.0000	58.3630
Total	**0.0650**	**0.4732**	**0.4220**	**7.1000e-004**		**0.0174**	**0.0174**		**0.0168**	**0.0168**	**0.0000**	**58.0934**	**58.0934**	**0.0108**	**0.0000**	**58.3630**

3.6 Building Construction - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1530	0.0408	3.7000e-004	8.8400e-003	7.6000e-004	9.6000e-003	2.5600e-003	7.3000e-004	3.2800e-003	0.0000	35.1379	35.1379	1.6100e-003	0.0000	35.1782
Worker	0.0113	8.1000e-003	0.0849	2.6000e-004	0.0269	1.7000e-004	0.0271	7.1500e-003	1.6000e-004	7.3100e-003	0.0000	23.0707	23.0707	5.7000e-004	0.0000	23.0848
Total	**0.0166**	**0.1611**	**0.1257**	**6.3000e-004**	**0.0357**	**9.3000e-004**	**0.0367**	**9.7100e-003**	**8.9000e-004**	**0.0106**	**0.0000**	**58.2086**	**58.2086**	**2.1800e-003**	**0.0000**	**58.2630**

3.6 Building Construction - 2021

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	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862	0.0000	236.9197	236.9197	0.0423	0.0000	237.9771
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**	**0.0000**	**236.9197**	**236.9197**	**0.0423**	**0.0000**	**237.9771**

3.6 Building Construction - 2021

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.5632	0.1499	1.4800e-003	0.0361	1.2500e-003	0.0373	0.0104	1.1900e-003	0.0116	0.0000	141.9740	141.9740	6.1900e-003	0.0000	142.1287
Worker	0.0426	0.0295	0.3164	1.0000e-003	0.1097	6.9000e-004	0.1104	0.0292	6.4000e-004	0.0298	0.0000	90.8194	90.8194	2.0700e-003	0.0000	90.8711
Total	**0.0605**	**0.5927**	**0.4664**	**2.4800e-003**	**0.1458**	**1.9400e-003**	**0.1477**	**0.0396**	**1.8300e-003**	**0.0414**	**0.0000**	**232.7934**	**232.7934**	**8.2600e-003**	**0.0000**	**232.9998**

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	0.2365	1.7795	1.6834	2.8800e-003		0.0614	0.0614		0.0591	0.0591	0.0000	236.9194	236.9194	0.0423	0.0000	237.9768
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0614**	**0.0614**		**0.0591**	**0.0591**	**0.0000**	**236.9194**	**236.9194**	**0.0423**	**0.0000**	**237.9768**

3.6 Building Construction - 2021

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.5632	0.1499	1.4800e-003	0.0361	1.2500e-003	0.0373	0.0104	1.1900e-003	0.0116	0.0000	141.9740	141.9740	6.1900e-003	0.0000	142.1287
Worker	0.0426	0.0295	0.3164	1.0000e-003	0.1097	6.9000e-004	0.1104	0.0292	6.4000e-004	0.0298	0.0000	90.8194	90.8194	2.0700e-003	0.0000	90.8711
Total	**0.0605**	**0.5927**	**0.4664**	**2.4800e-003**	**0.1458**	**1.9400e-003**	**0.1477**	**0.0396**	**1.8300e-003**	**0.0414**	**0.0000**	**232.7934**	**232.7934**	**8.2600e-003**	**0.0000**	**232.9998**

3.6 Building Construction - 2022

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	0.0206	0.1563	0.1591	2.8000e-004		7.3600e-003	7.3600e-003		7.1100e-003	7.1100e-003	0.0000	22.6971	22.6971	3.9500e-003	0.0000	22.7959
Total	**0.0206**	**0.1563**	**0.1591**	**2.8000e-004**		**7.3600e-003**	**7.3600e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**22.6971**	**22.6971**	**3.9500e-003**	**0.0000**	**22.7959**

3.6 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0510	0.0135	1.4000e-004	3.4500e-003	1.0000e-004	3.5600e-003	1.0000e-003	1.0000e-004	1.1000e-003	0.0000	13.4689	13.4689	5.7000e-004	0.0000	13.4831
Worker	3.8100e-003	2.5400e-003	0.0279	9.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8500e-003	0.0000	8.3832	8.3832	1.8000e-004	0.0000	8.3876
Total	**5.4100e-003**	**0.0535**	**0.0414**	**2.3000e-004**	**0.0140**	**1.6000e-004**	**0.0141**	**3.7900e-003**	**1.6000e-004**	**3.9500e-003**	**0.0000**	**21.8521**	**21.8521**	**7.5000e-004**	**0.0000**	**21.8707**

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	0.0206	0.1563	0.1591	2.8000e-004		5.0800e-003	5.0800e-003		4.8900e-003	4.8900e-003	0.0000	22.6971	22.6971	3.9500e-003	0.0000	22.7959
Total	**0.0206**	**0.1563**	**0.1591**	**2.8000e-004**		**5.0800e-003**	**5.0800e-003**		**4.8900e-003**	**4.8900e-003**	**0.0000**	**22.6971**	**22.6971**	**3.9500e-003**	**0.0000**	**22.7959**

3.6 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0510	0.0135	1.4000e-004	3.4500e-003	1.0000e-004	3.5600e-003	1.0000e-003	1.0000e-004	1.1000e-003	0.0000	13.4689	13.4689	5.7000e-004	0.0000	13.4831
Worker	3.8100e-003	2.5400e-003	0.0279	9.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8500e-003	0.0000	8.3832	8.3832	1.8000e-004	0.0000	8.3876
Total	**5.4100e-003**	**0.0535**	**0.0414**	**2.3000e-004**	**0.0140**	**1.6000e-004**	**0.0141**	**3.7900e-003**	**1.6000e-004**	**3.9500e-003**	**0.0000**	**21.8521**	**21.8521**	**7.5000e-004**	**0.0000**	**21.8707**

3.7 Paving - 2022

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9800e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.3700e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4113	0.4113	1.0000e-005	0.0000	0.4115
Total	**1.9000e-004**	**1.2000e-004**	**1.3700e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4115**

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	3.4400e-003	0.0339	0.0440	7.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9314
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9800e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**3.1000e-004**	**3.1000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9314**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.3700e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4113	0.4113	1.0000e-005	0.0000	0.4115
Total	**1.9000e-004**	**1.2000e-004**	**1.3700e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4115**

3.8 Architectural Coating - 2022

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	0.7504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7525**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.8 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.0000e-004	4.4200e-003	1.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3287	1.3287	3.0000e-005	0.0000	1.3294
Total	**6.0000e-004**	**4.0000e-004**	**4.4200e-003**	**1.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3287**	**1.3287**	**3.0000e-005**	**0.0000**	**1.3294**

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	0.7504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7525**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.8 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.0000e-004	4.4200e-003	1.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3287	1.3287	3.0000e-005	0.0000	1.3294
Total	**6.0000e-004**	**4.0000e-004**	**4.4200e-003**	**1.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3287**	**1.3287**	**3.0000e-005**	**0.0000**	**1.3294**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.4132	1.8226	5.1890	0.0186	1.7360	0.0156	1.7516	0.4647	0.0146	0.4793	0.0000	1,702.092 8	1,702.092 8	0.0554	0.0000	1,703.478 1
Unmitigated	0.4132	1.8226	5.1890	0.0186	1.7360	0.0156	1.7516	0.4647	0.0146	0.4793	0.0000	1,702.092 8	1,702.092 8	0.0554	0.0000	1,703.478 1

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	4,668,392	4,668,392
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	4,668,392	4,668,392

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	100	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	549.9107	549.9107	0.0249	5.1400e-003	552.0654
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	549.9107	549.9107	0.0249	5.1400e-003	552.0654
NaturalGas Mitigated	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	419.9311	419.9311	8.0500e-003	7.7000e-003	422.4265
NaturalGas Unmitigated	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	419.9311	419.9311	8.0500e-003	7.7000e-003	422.4265

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	5.71599e+006	0.0308	0.2802	0.2354	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	305.0270	305.0270	5.8500e-003	5.5900e-003	306.8396
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.15322e+006	0.0116	0.1056	0.0887	6.3000e-004		8.0200e-003	8.0200e-003		8.0200e-003	8.0200e-003	0.0000	114.9041	114.9041	2.2000e-003	2.1100e-003	115.5869
Total		**0.0424**	**0.3858**	**0.3240**	**2.3100e-003**		**0.0293**	**0.0293**		**0.0293**	**0.0293**	**0.0000**	**419.9311**	**419.9311**	**8.0500e-003**	**7.7000e-003**	**422.4265**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	5.71599e+006	0.0308	0.2802	0.2354	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	305.0270	305.0270	5.8500e-003	5.5900e-003	306.8396
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.15322e+006	0.0116	0.1056	0.0887	6.3000e-004		8.0200e-003	8.0200e-003		8.0200e-003	8.0200e-003	0.0000	114.9041	114.9041	2.2000e-003	2.1100e-003	115.5869
Total		**0.0424**	**0.3858**	**0.3240**	**2.3100e-003**		**0.0293**	**0.0293**		**0.0293**	**0.0293**	**0.0000**	**419.9311**	**419.9311**	**8.0500e-003**	**7.7000e-003**	**422.4265**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	562109	163.5239	7.3900e-003	1.5300e-003	164.1646
Hotel	982980	285.9602	0.0129	2.6800e-003	287.0806
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Quality Restaurant	338914	98.5939	4.4600e-003	9.2000e-004	98.9802
Total		**549.9107**	**0.0249**	**5.1500e-003**	**552.0654**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	562109	163.5239	7.3900e-003	1.5300e-003	164.1646
Hotel	982980	285.9602	0.0129	2.6800e-003	287.0806
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Quality Restaurant	338914	98.5939	4.4600e-003	9.2000e-004	98.9802
Total		**549.9107**	**0.0249**	**5.1500e-003**	**552.0654**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Unmitigated	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Total	**0.6269**	**2.0000e-005**	**2.7000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2400e-003**	**5.2400e-003**	**1.0000e-005**	**0.0000**	**5.5800e-003**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Total	**0.6269**	**2.0000e-005**	**2.7000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2400e-003**	**5.2400e-003**	**1.0000e-005**	**0.0000**	**5.5800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.6002	0.4653	0.0112	42.5641
Unmitigated	27.6002	0.4653	0.0112	42.5641

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.1033 / 0.439691	21.4482	0.3626	8.7100e-003	33.1093
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.14461 / 0.20072	6.1520	0.1027	2.4700e-003	9.4549
Total		**27.6002**	**0.4653**	**0.0112**	**42.5642**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.1033 / 0.439691	21.4482	0.3626	8.7100e-003	33.1093
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.14461 / 0.20072	6.1520	0.1027	2.4700e-003	9.4549
Total		**27.6002**	**0.4653**	**0.0112**	**42.5642**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.2557	1.1380	0.0000	47.7052
Unmitigated	19.2557	1.1380	0.0000	47.7052

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	85.41	17.3375	1.0246	0.0000	42.9528
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	9.45	1.9183	0.1134	0.0000	4.7524
Total		**19.2557**	**1.1380**	**0.0000**	**47.7052**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	85.41	17.3375	1.0246	0.0000	42.9528
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	9.45	1.9183	0.1134	0.0000	4.7524
Total		**19.2557**	**1.1380**	**0.0000**	**47.7052**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

De Anza Construction & Operation 2022 - HRA Mitigation

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00

tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	5.3075	118.0569	32.0336	0.2645	14.7060	1.6574	16.3634	6.4861	1.5353	8.0214	0.0000	27,935.9789	27,935.9789	2.0757	0.0000	27,987.8715
2021	2.3181	18.1908	16.5975	0.0408	1.1551	0.6994	1.8545	0.3128	0.6750	0.9878	0.0000	3,940.2102	3,940.2102	0.4291	0.0000	3,950.9378
2022	75.3144	16.7953	16.1502	0.0404	1.1551	0.6025	1.7577	0.3128	0.5817	0.8946	0.0000	3,901.5998	3,901.5998	0.4162	0.0000	3,912.0036
Maximum	**75.3144**	**118.0569**	**32.0336**	**0.2645**	**14.7060**	**1.6574**	**16.3634**	**6.4861**	**1.5353**	**8.0214**	**0.0000**	**27,935.9789**	**27,935.9789**	**2.0757**	**0.0000**	**27,987.8715**

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	lb/day										lb/day					
2020	5.3075	118.0569	32.0336	0.2645	14.7060	0.5736	15.1999	6.4861	0.5518	6.9510	0.0000	27,935.9789	27,935.9789	2.0757	0.0000	27,987.8715
2021	2.3181	18.1908	16.5975	0.0408	1.1551	0.4855	1.6407	0.3128	0.4669	0.7797	0.0000	3,940.2102	3,940.2102	0.4291	0.0000	3,950.9378
2022	75.3144	16.7953	16.1502	0.0404	1.1551	0.4202	1.5754	0.3128	0.4040	0.7168	0.0000	3,901.5998	3,901.5998	0.4162	0.0000	3,912.0036
Maximum	**75.3144**	**118.0569**	**32.0336**	**0.2645**	**14.7060**	**0.5736**	**15.1999**	**6.4861**	**0.5518**	**6.9510**	**0.0000**	**27,935.9789**	**27,935.9789**	**2.0757**	**0.0000**	**27,987.8715**

	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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	50.01	7.81	0.00	49.05	14.70	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.2571	10.2404	29.4968	0.1010	9.8751	0.0862	9.9613	2.6359	0.0805	2.7164		10,194.2914	10,194.2914	0.3421		10,202.8436
Total	**5.9262**	**12.3543**	**31.3022**	**0.1137**	**9.8751**	**0.2469**	**10.1220**	**2.6359**	**0.2413**	**2.8772**		**12,730.7652**	**12,730.7652**	**0.3909**	**0.0465**	**12,754.3943**

Mitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.2571	10.2404	29.4968	0.1010	9.8751	0.0862	9.9613	2.6359	0.0805	2.7164		10,194.2914	10,194.2914	0.3421		10,202.8436
Total	**5.9262**	**12.3543**	**31.3022**	**0.1137**	**9.8751**	**0.2469**	**10.1220**	**2.6359**	**0.2413**	**2.8772**		**12,730.7652**	**12,730.7652**	**0.3909**	**0.0465**	**12,754.3943**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**		**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0667	2.3013	0.4895	6.1600e-003	0.1381	7.5200e-003	0.1456	0.0378	7.1900e-003	0.0450		657.6093	657.6093	0.0312		658.3887
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0481	0.0339	0.3313	9.7000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		96.2606	96.2606	2.3900e-003		96.3203
Total	**0.1311**	**2.7902**	**0.9506**	**8.2000e-003**	**0.2719**	**0.0105**	**0.2824**	**0.0740**	**9.9800e-003**	**0.0839**		**867.4316**	**867.4316**	**0.0391**		**868.4082**

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		0.3413	0.3413		0.3298	0.3298	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**0.3413**	**1.7194**	**0.2087**	**0.3298**	**0.5385**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0667	2.3013	0.4895	6.1600e-003	0.1381	7.5200e-003	0.1456	0.0378	7.1900e-003	0.0450		657.6093	657.6093	0.0312		658.3887
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0481	0.0339	0.3313	9.7000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		96.2606	96.2606	2.3900e-003		96.3203
Total	**0.1311**	**2.7902**	**0.9506**	**8.2000e-003**	**0.2719**	**0.0105**	**0.2824**	**0.0740**	**9.9800e-003**	**0.0839**		**867.4316**	**867.4316**	**0.0391**		**868.4082**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.1231	0.1231		0.1133	0.1133	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.1231**	**5.9227**	**2.9537**	**0.1133**	**3.0670**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

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						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

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						lb/day								lb/day		
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.1027	0.1027		0.0944	0.0944	0.0000	1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.1027**	**4.6192**	**2.4827**	**0.0944**	**2.5771**	**0.0000**	**1,365.718 3**	**1,365.718 3**	**0.4417**		**1,376.760 9**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.5324	87.3895	18.5875	0.2341	5.2430	0.2855	5.5285	1.4370	0.2731	1.7101		24,972.5060	24,972.5060	1.1839		25,002.1025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**2.5620**	**87.4103**	**18.7914**	**0.2347**	**5.3087**	**0.2859**	**5.5946**	**1.4544**	**0.2735**	**1.7279**		**25,031.7433**	**25,031.7433**	**1.1853**		**25,061.3765**

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.1027	0.1027		0.0944	0.0944	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.1027**	**4.8906**	**2.5238**	**0.0944**	**2.6182**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.5324	87.3895	18.5875	0.2341	5.2430	0.2855	5.5285	1.4370	0.2731	1.7101		24,972.50 60	24,972.50 60	1.1839		25,002.10 25
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**2.5620**	**87.4103**	**18.7914**	**0.2347**	**5.3087**	**0.2859**	**5.5946**	**1.4544**	**0.2735**	**1.7279**		**25,031.74 33**	**25,031.74 33**	**1.1853**		**25,061.37 65**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.159 5	2,001.159 5	0.3715		2,010.446 7
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.159 5**	**2,001.159 5**	**0.3715**		**2,010.446 7**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1717	4.7777	1.3629	0.0113	0.2844	0.0239	0.3083	0.0819	0.0229	0.1047		1,192.397 2	1,192.397 2	0.0578		1,193.842 3
Worker	0.3919	0.2764	2.7014	7.8800e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		784.8941	784.8941	0.0195		785.3806
Total	**0.5636**	**5.0540**	**4.0642**	**0.0192**	**1.1551**	**0.0293**	**1.1845**	**0.3128**	**0.0279**	**0.3407**		**1,977.291 3**	**1,977.291 3**	**0.0773**		**1,979.222 9**

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.5443	0.5443		0.5240	0.5240	0.0000	2,001.159 5	2,001.159 5	0.3715		2,010.446 7
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.5443**	**0.5443**		**0.5240**	**0.5240**	**0.0000**	**2,001.159 5**	**2,001.159 5**	**0.3715**		**2,010.446 7**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1717	4.7777	1.3629	0.0113	0.2844	0.0239	0.3083	0.0819	0.0229	0.1047		1,192.397 2	1,192.397 2	0.0578		1,193.842 3
Worker	0.3919	0.2764	2.7014	7.8800e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		784.8941	784.8941	0.0195		785.3806
Total	**0.5636**	**5.0540**	**4.0642**	**0.0192**	**1.1551**	**0.0293**	**1.1845**	**0.3128**	**0.0279**	**0.3407**		**1,977.291 3**	**1,977.291 3**	**0.0773**		**1,979.222 9**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.220 0	2,001.220 0	0.3573		2,010.151 7
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.220 0**	**2,001.220 0**	**0.3573**		**2,010.151 7**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1419	4.3078	1.2321	0.0112	0.2844	9.7500e-003	0.2941	0.0819	9.3200e-003	0.0912		1,181.3360	1,181.3360	0.0544		1,182.6971
Worker	0.3637	0.2470	2.4660	7.6000e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		757.6542	757.6542	0.0174		758.0891
Total	**0.5056**	**4.5547**	**3.6982**	**0.0188**	**1.1551**	**0.0150**	**1.1702**	**0.3128**	**0.0142**	**0.3270**		**1,938.9902**	**1,938.9902**	**0.0718**		**1,940.7861**

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	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.4705	0.4705		0.4527	0.4527	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.4705**	**0.4705**		**0.4527**	**0.4527**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1419	4.3078	1.2321	0.0112	0.2844	9.7500e-003	0.2941	0.0819	9.3200e-003	0.0912		1,181.3360	1,181.3360	0.0544		1,182.6971
Worker	0.3637	0.2470	2.4660	7.6000e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		757.6542	757.6542	0.0174		758.0891
Total	**0.5056**	**4.5547**	**3.6982**	**0.0188**	**1.1551**	**0.0150**	**1.1702**	**0.3128**	**0.0142**	**0.3270**		**1,938.9902**	**1,938.9902**	**0.0718**		**1,940.7861**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1324	4.0707	1.1605	0.0111	0.2844	8.4800e-003	0.2929	0.0819	8.1100e-003	0.0900		1,169.9184	1,169.9184	0.0520		1,171.2176
Worker	0.3399	0.2216	2.2633	7.3200e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		730.1386	730.1386	0.0156		730.5280
Total	**0.4723**	**4.2922**	**3.4238**	**0.0184**	**1.1551**	**0.0137**	**1.1688**	**0.3128**	**0.0129**	**0.3257**		**1,900.0569**	**1,900.0569**	**0.0676**		**1,901.7455**

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.4066	0.4066		0.3911	0.3911	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.4066**	**0.4066**		**0.3911**	**0.3911**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1324	4.0707	1.1605	0.0111	0.2844	8.4800e-003	0.2929	0.0819	8.1100e-003	0.0900		1,169.918 4	1,169.918 4	0.0520		1,171.217 6
Worker	0.3399	0.2216	2.2633	7.3200e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		730.1386	730.1386	0.0156		730.5280
Total	**0.4723**	**4.2922**	**3.4238**	**0.0184**	**1.1551**	**0.0137**	**1.1688**	**0.3128**	**0.0129**	**0.3257**		**1,900.056 9**	**1,900.056 9**	**0.0676**		**1,901.745 5**

3.7 Paving - 2022

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.378 9	1,297.378 9	0.4113		1,307.660 8
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.378 9**	**1,297.378 9**	**0.4113**		**1,307.660 8**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0417	0.0272	0.2776	9.0000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		89.5453	89.5453	1.9100e-003		89.5931
Total	**0.0417**	**0.0272**	**0.2776**	**9.0000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**89.5453**	**89.5453**	**1.9100e-003**		**89.5931**

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.0612	0.0612		0.0572	0.0572	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.0612**	**0.0612**		**0.0572**	**0.0572**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0417	0.0272	0.2776	9.0000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		89.5453	89.5453	1.9100e-003		89.5931
Total	**0.0417**	**0.0272**	**0.2776**	**9.0000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**89.5453**	**89.5453**	**1.9100e-003**		**89.5931**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0439	0.4484	1.4500e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		144.6501	144.6501	3.0900e-003		144.7272
Total	**0.0673**	**0.0439**	**0.4484**	**1.4500e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**144.6501**	**144.6501**	**3.0900e-003**		**144.7272**

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0439	0.4484	1.4500e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		144.6501	144.6501	3.0900e-003		144.7272
Total	**0.0673**	**0.0439**	**0.4484**	**1.4500e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**144.6501**	**144.6501**	**3.0900e-003**		**144.7272**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	2.2571	10.2404	29.4968	0.1010	9.8751	0.0862	9.9613	2.6359	0.0805	2.7164		10,194.29 14	10,194.29 14	0.3421		10,202.84 36
Unmitigated	2.2571	10.2404	29.4968	0.1010	9.8751	0.0862	9.9613	2.6359	0.0805	2.7164		10,194.29 14	10,194.29 14	0.3421		10,202.84 36

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	4,668,392	4,668,392
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	4,668,392	4,668,392

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	100	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	lb/day										lb/day					
NaturalGas Mitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
NaturalGas Unmitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15660.2	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5899.24	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15.6602	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.89924	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Unmitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

De Anza Construction & Operation 2022 - HRA Mitigation

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00

tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	5.2352	115.9627	30.7353	0.2687	14.7060	1.6527	16.3588	6.4861	1.5309	8.0170	0.0000	28,380.0143	28,380.0143	2.0223	0.0000	28,430.5711
2021	2.2878	18.1080	16.6467	0.0418	1.1551	0.6991	1.8542	0.3128	0.6747	0.9875	0.0000	4,038.1124	4,038.1124	0.4265	0.0000	4,048.7755
2022	75.3101	16.7235	16.2013	0.0414	1.1551	0.6023	1.7574	0.3128	0.5815	0.8943	0.0000	3,996.9345	3,996.9345	0.4137	0.0000	4,007.2768
Maximum	**75.3101**	**115.9627**	**30.7353**	**0.2687**	**14.7060**	**1.6527**	**16.3588**	**6.4861**	**1.5309**	**8.0170**	**0.0000**	**28,380.0143**	**28,380.0143**	**2.0223**	**0.0000**	**28,430.5711**

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	lb/day										lb/day					
2020	5.2352	115.9627	30.7353	0.2687	14.7060	0.5733	15.1953	6.4861	0.5515	6.9466	0.0000	28,380.0143	28,380.0143	2.0223	0.0000	28,430.5711
2021	2.2878	18.1080	16.6467	0.0418	1.1551	0.4852	1.6404	0.3128	0.4666	0.7794	0.0000	4,038.1124	4,038.1124	0.4265	0.0000	4,048.7755
2022	75.3101	16.7235	16.2013	0.0414	1.1551	0.4199	1.5751	0.3128	0.4037	0.7166	0.0000	3,996.9345	3,996.9345	0.4137	0.0000	4,007.2768
Maximum	**75.3101**	**115.9627**	**30.7353**	**0.2687**	**14.7060**	**0.5733**	**15.1953**	**6.4861**	**0.5515**	**6.9466**	**0.0000**	**28,380.0143**	**28,380.0143**	**2.0223**	**0.0000**	**28,430.5711**

	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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	49.95	7.81	0.00	48.99	14.71	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.5901	9.6694	30.2985	0.1084	9.8751	0.0857	9.9608	2.6359	0.0801	2.7160		10,933.5037	10,933.5037	0.3417		10,942.0458
Total	**6.2592**	**11.7833**	**32.1040**	**0.1211**	**9.8751**	**0.2464**	**10.1216**	**2.6359**	**0.2408**	**2.8767**		**13,469.9775**	**13,469.9775**	**0.3905**	**0.0465**	**13,493.5965**

Mitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.5901	9.6694	30.2985	0.1084	9.8751	0.0857	9.9608	2.6359	0.0801	2.7160		10,933.5037	10,933.5037	0.3417		10,942.0458
Total	**6.2592**	**11.7833**	**32.1040**	**0.1211**	**9.8751**	**0.2464**	**10.1216**	**2.6359**	**0.2408**	**2.8767**		**13,469.9775**	**13,469.9775**	**0.3905**	**0.0465**	**13,493.5965**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.312 7	2,322.312 7	0.5970		2,337.236 3
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**		**2,322.312 7**	**2,322.312 7**	**0.5970**		**2,337.236 3**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0649	2.2464	0.4549	6.2700e-003	0.1381	7.4000e-003	0.1455	0.0378	7.0800e-003	0.0449		668.9482	668.9482	0.0298		669.6925
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0452	0.0278	0.3575	1.0500e-003	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		104.7808	104.7808	2.5600e-003		104.8449
Total	**0.1256**	**2.7240**	**0.9263**	**8.4200e-003**	**0.2719**	**0.0103**	**0.2822**	**0.0740**	**9.8300e-003**	**0.0838**		**890.2486**	**890.2486**	**0.0374**		**891.1848**

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		0.3413	0.3413		0.3298	0.3298	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**0.3413**	**1.7194**	**0.2087**	**0.3298**	**0.5385**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0649	2.2464	0.4549	6.2700e-003	0.1381	7.4000e-003	0.1455	0.0378	7.0800e-003	0.0449		668.9482	668.9482	0.0298		669.6925
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0452	0.0278	0.3575	1.0500e-003	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		104.7808	104.7808	2.5600e-003		104.8449
Total	**0.1256**	**2.7240**	**0.9263**	**8.4200e-003**	**0.2719**	**0.0103**	**0.2822**	**0.0740**	**9.8300e-003**	**0.0838**		**890.2486**	**890.2486**	**0.0374**		**891.1848**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.1231	0.1231		0.1133	0.1133	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.1231**	**5.9227**	**2.9537**	**0.1133**	**3.0670**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**		**1,365.718 3**	**1,365.718 3**	**0.4417**		**1,376.760 9**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.1027	0.1027		0.0944	0.0944	0.0000	1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.1027**	**4.6192**	**2.4827**	**0.0944**	**2.5771**	**0.0000**	**1,365.718 3**	**1,365.718 3**	**0.4417**		**1,376.760 9**

3.4 Grading - 2020

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						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

3.5 Grading Soil Haul - 2020

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						lb/day								lb/day		
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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					lb/day								lb/day			
Hauling	2.4644	85.3080	17.2727	0.2381	5.2430	0.2809	5.5239	1.4370	0.2688	1.7057		25,403.0970	25,403.0970	1.1306		25,431.3621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**2.4922**	**85.3251**	**17.4928**	**0.2387**	**5.3087**	**0.2813**	**5.5900**	**1.4544**	**0.2691**	**1.7235**		**25,467.5776**	**25,467.5776**	**1.1322**		**25,495.8821**

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					lb/day								lb/day			
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.1027	0.1027		0.0944	0.0944	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.1027**	**4.8906**	**2.5238**	**0.0944**	**2.6182**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.4644	85.3080	17.2727	0.2381	5.2430	0.2809	5.5239	1.4370	0.2688	1.7057		25,403.0970	25,403.0970	1.1306		25,431.3621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**2.4922**	**85.3251**	**17.4928**	**0.2387**	**5.3087**	**0.2813**	**5.5900**	**1.4544**	**0.2691**	**1.7235**		**25,467.5776**	**25,467.5776**	**1.1322**		**25,495.8821**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1632	4.7231	1.1962	0.0116	0.2844	0.0235	0.3079	0.0819	0.0225	0.1044		1,223.455 3	1,223.455 3	0.0537		1,224.797 1
Worker	0.3684	0.2262	2.9154	8.5700e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		854.3668	854.3668	0.0209		854.8895
Total	**0.5316**	**4.9494**	**4.1115**	**0.0202**	**1.1551**	**0.0290**	**1.1841**	**0.3128**	**0.0275**	**0.3403**		**2,077.822 1**	**2,077.822 1**	**0.0746**		**2,079.686 6**

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.5443	0.5443		0.5240	0.5240	0.0000	2,001.159 5	2,001.159 5	0.3715		2,010.446 7
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.5443**	**0.5443**		**0.5240**	**0.5240**	**0.0000**	**2,001.159 5**	**2,001.159 5**	**0.3715**		**2,010.446 7**

3.6 Building Construction - 2020

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					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1632	4.7231	1.1962	0.0116	0.2844	0.0235	0.3079	0.0819	0.0225	0.1044		1,223.4553	1,223.4553	0.0537		1,224.7971
Worker	0.3684	0.2262	2.9154	8.5700e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		854.3668	854.3668	0.0209		854.8895
Total	**0.5316**	**4.9494**	**4.1115**	**0.0202**	**1.1551**	**0.0290**	**1.1841**	**0.3128**	**0.0275**	**0.3403**		**2,077.8221**	**2,077.8221**	**0.0746**		**2,079.6866**

3.6 Building Construction - 2021

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					lb/day								lb/day			
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.6 Building Construction - 2021

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						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1339	4.2697	1.0761	0.0115	0.2844	9.4400e-003	0.2938	0.0819	9.0300e-003	0.0909		1,212.200 9	1,212.200 9	0.0505		1,213.463 9
Worker	0.3413	0.2022	2.6712	8.2700e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		824.6915	824.6915	0.0187		825.1600
Total	**0.4753**	**4.4719**	**3.7473**	**0.0197**	**1.1551**	**0.0147**	**1.1699**	**0.3128**	**0.0139**	**0.3267**		**2,036.892 4**	**2,036.892 4**	**0.0693**		**2,038.623 8**

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						lb/day								lb/day		
Off-Road	1.8125	13.6361	12.8994	0.0221		0.4705	0.4705		0.4527	0.4527	0.0000	2,001.220 0	2,001.220 0	0.3573		2,010.151 7
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.4705**	**0.4705**		**0.4527**	**0.4527**	**0.0000**	**2,001.220 0**	**2,001.220 0**	**0.3573**		**2,010.151 7**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1339	4.2697	1.0761	0.0115	0.2844	9.4400e-003	0.2938	0.0819	9.0300e-003	0.0909		1,212.200 9	1,212.200 9	0.0505		1,213.463 9
Worker	0.3413	0.2022	2.6712	8.2700e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		824.6915	824.6915	0.0187		825.1600
Total	**0.4753**	**4.4719**	**3.7473**	**0.0197**	**1.1551**	**0.0147**	**1.1699**	**0.3128**	**0.0139**	**0.3267**		**2,036.892 4**	**2,036.892 4**	**0.0693**		**2,038.623 8**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.542 9	2,001.542 9	0.3486		2,010.258 1
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.542 9**	**2,001.542 9**	**0.3486**		**2,010.258 1**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1249	4.0389	1.0135	0.0114	0.2844	8.2000e-003	0.2926	0.0819	7.8400e-003	0.0897		1,200.6876	1,200.6876	0.0483		1,201.8940
Worker	0.3181	0.1815	2.4615	7.9700e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		794.7040	794.7040	0.0168		795.1247
Total	**0.4430**	**4.2204**	**3.4749**	**0.0193**	**1.1551**	**0.0134**	**1.1685**	**0.3128**	**0.0126**	**0.3254**		**1,995.3917**	**1,995.3917**	**0.0651**		**1,997.0187**

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.4066	0.4066		0.3911	0.3911	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.4066**	**0.4066**		**0.3911**	**0.3911**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1249	4.0389	1.0135	0.0114	0.2844	8.2000e-003	0.2926	0.0819	7.8400e-003	0.0897		1,200.6876	1,200.6876	0.0483		1,201.8940
Worker	0.3181	0.1815	2.4615	7.9700e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		794.7040	794.7040	0.0168		795.1247
Total	**0.4430**	**4.2204**	**3.4749**	**0.0193**	**1.1551**	**0.0134**	**1.1685**	**0.3128**	**0.0126**	**0.3254**		**1,995.3917**	**1,995.3917**	**0.0651**		**1,997.0187**

3.7 Paving - 2022

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0390	0.0223	0.3019	9.8000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		97.4637	97.4637	2.0600e-003		97.5153
Total	**0.0390**	**0.0223**	**0.3019**	**9.8000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**97.4637**	**97.4637**	**2.0600e-003**		**97.5153**

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.0612	0.0612		0.0572	0.0572	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.0612**	**0.0612**		**0.0572**	**0.0572**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0390	0.0223	0.3019	9.8000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		97.4637	97.4637	2.0600e-003		97.5153
Total	**0.0390**	**0.0223**	**0.3019**	**9.8000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**97.4637**	**97.4637**	**2.0600e-003**		**97.5153**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0360	0.4877	1.5800e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		157.4414	157.4414	3.3300e-003		157.5247
Total	**0.0630**	**0.0360**	**0.4877**	**1.5800e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**157.4414**	**157.4414**	**3.3300e-003**		**157.5247**

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0360	0.4877	1.5800e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		157.4414	157.4414	3.3300e-003		157.5247
Total	**0.0630**	**0.0360**	**0.4877**	**1.5800e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**157.4414**	**157.4414**	**3.3300e-003**		**157.5247**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	lb/day										lb/day					
Mitigated	2.5901	9.6694	30.2985	0.1084	9.8751	0.0857	9.9608	2.6359	0.0801	2.7160		10,933.50 37	10,933.50 37	0.3417		10,942.04 58
Unmitigated	2.5901	9.6694	30.2985	0.1084	9.8751	0.0857	9.9608	2.6359	0.0801	2.7160		10,933.50 37	10,933.50 37	0.3417		10,942.04 58

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	4,668,392	4,668,392
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	4,668,392	4,668,392

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	100	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	lb/day										lb/day					
NaturalGas Mitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
NaturalGas Unmitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15660.2	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5899.24	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15.6602	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.89924	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Unmitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

De Anza Construction & Operation 2022

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00

tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00
tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

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					
2020	0.1759	2.5658	1.1145	5.5400e-003	0.2768	0.0591	0.3359	0.1153	0.0558	0.1711	0.0000	518.5810	518.5810	0.0449	0.0000	519.7039
2021	0.2970	2.3722	2.1497	5.3600e-003	0.1458	0.0913	0.2370	0.0396	0.0881	0.1277	0.0000	469.7131	469.7131	0.0506	0.0000	470.9768
2022	0.7833	0.2583	0.2684	6.3000e-004	0.0161	0.0101	0.0262	4.3700e-003	9.7000e-003	0.0141	0.0000	54.7272	54.7272	6.7700e-003	0.0000	54.8964
Maximum	**0.7833**	**2.5658**	**2.1497**	**5.5400e-003**	**0.2768**	**0.0913**	**0.3359**	**0.1153**	**0.0881**	**0.1711**	**0.0000**	**518.5810**	**518.5810**	**0.0506**	**0.0000**	**519.7039**

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					
2020	0.1759	2.5658	1.1145	5.5400e-003	0.2768	0.0591	0.3359	0.1153	0.0558	0.1711	0.0000	518.5809	518.5809	0.0449	0.0000	519.7038
2021	0.2970	2.3722	2.1497	5.3600e-003	0.1458	0.0913	0.2370	0.0396	0.0881	0.1277	0.0000	469.7128	469.7128	0.0506	0.0000	470.9765
2022	0.7833	0.2583	0.2684	6.3000e-004	0.0161	0.0101	0.0262	4.3700e-003	9.7000e-003	0.0141	0.0000	54.7272	54.7272	6.7700e-003	0.0000	54.8963
Maximum	**0.7833**	**2.5658**	**2.1497**	**5.5400e-003**	**0.2768**	**0.0913**	**0.3359**	**0.1153**	**0.0881**	**0.1711**	**0.0000**	**518.5809**	**518.5809**	**0.0506**	**0.0000**	**519.7038**

	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	N20	CO2e
Percent Reduction	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-3-2020	11-2-2020	3.6039	3.6039
2	11-3-2020	2-2-2021	0.7145	0.7145
3	2-3-2021	5-2-2021	0.6506	0.6506
4	5-3-2021	8-2-2021	0.6701	0.6701
5	8-3-2021	11-2-2021	0.6715	0.6715
6	11-3-2021	2-2-2022	0.6551	0.6551
7	2-3-2022	5-2-2022	0.7591	0.7591
		Highest	3.6039	3.6039

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Energy	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	969.8418	969.8418	0.0329	0.0128	974.4919
Mobile	0.3619	1.4753	3.8894	0.0129	1.1727	0.0111	1.1838	0.3139	0.0104	0.3243	0.0000	1,182.0688	1,182.0688	0.0417	0.0000	1,183.1103
Waste						0.0000	0.0000		0.0000	0.0000	19.2557	0.0000	19.2557	1.1380	0.0000	47.7052
Water						0.0000	0.0000		0.0000	0.0000	4.5202	23.0800	27.6002	0.4653	0.0112	42.5641
Total	**1.0313**	**1.8611**	**4.2162**	**0.0152**	**1.1727**	**0.0404**	**1.2131**	**0.3139**	**0.0397**	**0.3536**	**23.7759**	**2,174.9958**	**2,198.7717**	**1.6779**	**0.0240**	**2,247.8771**

2.2 Overall Operational

Mitigated Operational

	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					
Area	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Energy	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	969.8418	969.8418	0.0329	0.0128	974.4919
Mobile	0.3619	1.4753	3.8894	0.0129	1.1727	0.0111	1.1838	0.3139	0.0104	0.3243	0.0000	1,182.0688	1,182.0688	0.0417	0.0000	1,183.1103
Waste						0.0000	0.0000		0.0000	0.0000	19.2557	0.0000	19.2557	1.1380	0.0000	47.7052
Water						0.0000	0.0000		0.0000	0.0000	4.5202	23.0402	27.5604	0.4653	0.0112	42.5242
Total	**1.0313**	**1.8611**	**4.2162**	**0.0152**	**1.1727**	**0.0404**	**1.2131**	**0.3139**	**0.0397**	**0.3536**	**23.7759**	**2,174.9560**	**2,198.7320**	**1.6779**	**0.0240**	**2,247.8372**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		5.7600e-003	5.7600e-003		5.3800e-003	5.3800e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
Total	**0.0106**	**0.1047**	**0.0733**	**1.2000e-004**	**6.8900e-003**	**5.7600e-003**	**0.0127**	**1.0400e-003**	**5.3800e-003**	**6.4200e-003**	**0.0000**	**10.5338**	**10.5338**	**2.7100e-003**	**0.0000**	**10.6015**

3.2 Demolition - 2020

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**6.3000e-004**	**0.0139**	**4.5900e-003**	**4.0000e-005**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**3.6000e-004**	**5.0000e-005**	**4.1000e-004**	**0.0000**	**3.9777**	**3.9777**	**1.7000e-004**	**0.0000**	**3.9820**

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					6.8900e-003	0.0000	6.8900e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		5.7600e-003	5.7600e-003		5.3800e-003	5.3800e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
Total	**0.0106**	**0.1047**	**0.0733**	**1.2000e-004**	**6.8900e-003**	**5.7600e-003**	**0.0127**	**1.0400e-003**	**5.3800e-003**	**6.4200e-003**	**0.0000**	**10.5338**	**10.5338**	**2.7100e-003**	**0.0000**	**10.6015**

3.2 Demolition - 2020

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	8.0000e-005	2.2800e-003	6.1000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**6.3000e-004**	**0.0139**	**4.5900e-003**	**4.0000e-005**	**1.3200e-003**	**5.0000e-005**	**1.3700e-003**	**3.6000e-004**	**5.0000e-005**	**4.1000e-004**	**0.0000**	**3.9777**	**3.9777**	**1.7000e-004**	**0.0000**	**3.9820**

3.3 Site Preparation - 2020

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					0.0145	0.0000	0.0145	7.3800e-003	0.0000	7.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0700e-003	0.0459	0.0193	4.0000e-005		2.0500e-003	2.0500e-003		1.8900e-003	1.8900e-003	0.0000	3.7816	3.7816	1.2200e-003	0.0000	3.8122
Total	**4.0700e-003**	**0.0459**	**0.0193**	**4.0000e-005**	**0.0145**	**2.0500e-003**	**0.0166**	**7.3800e-003**	**1.8900e-003**	**9.2700e-003**	**0.0000**	**3.7816**	**3.7816**	**1.2200e-003**	**0.0000**	**3.8122**

3.3 Site Preparation - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

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					0.0145	0.0000	0.0145	7.3800e-003	0.0000	7.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0700e-003	0.0459	0.0193	4.0000e-005		2.0500e-003	2.0500e-003		1.8900e-003	1.8900e-003	0.0000	3.7816	3.7816	1.2200e-003	0.0000	3.8122
Total	**4.0700e-003**	**0.0459**	**0.0193**	**4.0000e-005**	**0.0145**	**2.0500e-003**	**0.0166**	**7.3800e-003**	**1.8900e-003**	**9.2700e-003**	**0.0000**	**3.7816**	**3.7816**	**1.2200e-003**	**0.0000**	**3.8122**

3.3 Site Preparation - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

3.4 Grading - 2020

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					0.0678	0.0000	0.0678	0.0372	0.0000	0.0372	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0678**	**0.0103**	**0.0780**	**0.0372**	**9.4400e-003**	**0.0467**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7347**

3.4 Grading - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	6.8300e-003	1.8200e-003	2.0000e-005	3.9000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.5000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**6.4000e-004**	**7.1200e-003**	**4.8200e-003**	**3.0000e-005**	**1.3400e-003**	**4.0000e-005**	**1.3900e-003**	**3.6000e-004**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**2.3848**	**2.3848**	**9.0000e-005**	**0.0000**	**2.3871**

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					0.0678	0.0000	0.0678	0.0372	0.0000	0.0372	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7346
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0678**	**0.0103**	**0.0780**	**0.0372**	**9.4400e-003**	**0.0467**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7346**

3.4 Grading - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	6.8300e-003	1.8200e-003	2.0000e-005	3.9000e-004	3.0000e-005	4.3000e-004	1.1000e-004	3.0000e-005	1.5000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**6.4000e-004**	**7.1200e-003**	**4.8200e-003**	**3.0000e-005**	**1.3400e-003**	**4.0000e-005**	**1.3900e-003**	**3.6000e-004**	**4.0000e-005**	**4.1000e-004**	**0.0000**	**2.3848**	**2.3848**	**9.0000e-005**	**0.0000**	**2.3871**

3.5 Grading Soil Haul - 2020

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					0.0718	0.0000	0.0718	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0718**	**0.0103**	**0.0821**	**0.0379**	**9.4400e-003**	**0.0473**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7347**

3.5 Grading Soil Haul - 2020

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	0.0374	1.3058	0.2674	3.5500e-003	0.0763	4.2400e-003	0.0805	0.0210	4.0600e-003	0.0250	0.0000	343.2186	343.2186	0.0157	0.0000	343.6111
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**0.0378**	**1.3061**	**0.2704**	**3.5600e-003**	**0.0772**	**4.2500e-003**	**0.0815**	**0.0212**	**4.0700e-003**	**0.0253**	**0.0000**	**344.0348**	**344.0348**	**0.0157**	**0.0000**	**344.4278**

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					0.0718	0.0000	0.0718	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7346
Total	**0.0203**	**0.2263**	**0.0968**	**2.1000e-004**	**0.0718**	**0.0103**	**0.0821**	**0.0379**	**9.4400e-003**	**0.0473**	**0.0000**	**18.5844**	**18.5844**	**6.0100e-003**	**0.0000**	**18.7346**

3.5 Grading Soil Haul - 2020

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	0.0374	1.3058	0.2674	3.5500e-003	0.0763	4.2400e-003	0.0805	0.0210	4.0600e-003	0.0250	0.0000	343.2186	343.2186	0.0157	0.0000	343.6111
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.9000e-004	3.0000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8162	0.8162	2.0000e-005	0.0000	0.8167
Total	**0.0378**	**1.3061**	**0.2704**	**3.5600e-003**	**0.0772**	**4.2500e-003**	**0.0815**	**0.0212**	**4.0700e-003**	**0.0253**	**0.0000**	**344.0348**	**344.0348**	**0.0157**	**0.0000**	**344.4278**

3.6 Building Construction - 2020

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	0.0650	0.4732	0.4220	7.1000e-004		0.0255	0.0255		0.0246	0.0246	0.0000	58.0935	58.0935	0.0108	0.0000	58.3631
Total	**0.0650**	**0.4732**	**0.4220**	**7.1000e-004**		**0.0255**	**0.0255**		**0.0246**	**0.0246**	**0.0000**	**58.0935**	**58.0935**	**0.0108**	**0.0000**	**58.3631**

3.6 Building Construction - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1530	0.0408	3.7000e-004	8.8400e-003	7.6000e-004	9.6000e-003	2.5600e-003	7.3000e-004	3.2800e-003	0.0000	35.1379	35.1379	1.6100e-003	0.0000	35.1782
Worker	0.0113	8.1000e-003	0.0849	2.6000e-004	0.0269	1.7000e-004	0.0271	7.1500e-003	1.6000e-004	7.3100e-003	0.0000	23.0707	23.0707	5.7000e-004	0.0000	23.0848
Total	**0.0166**	**0.1611**	**0.1257**	**6.3000e-004**	**0.0357**	**9.3000e-004**	**0.0367**	**9.7100e-003**	**8.9000e-004**	**0.0106**	**0.0000**	**58.2086**	**58.2086**	**2.1800e-003**	**0.0000**	**58.2630**

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	0.0650	0.4732	0.4220	7.1000e-004		0.0255	0.0255		0.0246	0.0246	0.0000	58.0934	58.0934	0.0108	0.0000	58.3630
Total	**0.0650**	**0.4732**	**0.4220**	**7.1000e-004**		**0.0255**	**0.0255**		**0.0246**	**0.0246**	**0.0000**	**58.0934**	**58.0934**	**0.0108**	**0.0000**	**58.3630**

3.6 Building Construction - 2020

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1530	0.0408	3.7000e-004	8.8400e-003	7.6000e-004	9.6000e-003	2.5600e-003	7.3000e-004	3.2800e-003	0.0000	35.1379	35.1379	1.6100e-003	0.0000	35.1782
Worker	0.0113	8.1000e-003	0.0849	2.6000e-004	0.0269	1.7000e-004	0.0271	7.1500e-003	1.6000e-004	7.3100e-003	0.0000	23.0707	23.0707	5.7000e-004	0.0000	23.0848
Total	**0.0166**	**0.1611**	**0.1257**	**6.3000e-004**	**0.0357**	**9.3000e-004**	**0.0367**	**9.7100e-003**	**8.9000e-004**	**0.0106**	**0.0000**	**58.2086**	**58.2086**	**2.1800e-003**	**0.0000**	**58.2630**

3.6 Building Construction - 2021

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	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862	0.0000	236.9197	236.9197	0.0423	0.0000	237.9771
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**	**0.0000**	**236.9197**	**236.9197**	**0.0423**	**0.0000**	**237.9771**

3.6 Building Construction - 2021

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.5632	0.1499	1.4800e-003	0.0361	1.2500e-003	0.0373	0.0104	1.1900e-003	0.0116	0.0000	141.9740	141.9740	6.1900e-003	0.0000	142.1287
Worker	0.0426	0.0295	0.3164	1.0000e-003	0.1097	6.9000e-004	0.1104	0.0292	6.4000e-004	0.0298	0.0000	90.8194	90.8194	2.0700e-003	0.0000	90.8711
Total	**0.0605**	**0.5927**	**0.4664**	**2.4800e-003**	**0.1458**	**1.9400e-003**	**0.1477**	**0.0396**	**1.8300e-003**	**0.0414**	**0.0000**	**232.7934**	**232.7934**	**8.2600e-003**	**0.0000**	**232.9998**

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	0.2365	1.7795	1.6834	2.8800e-003		0.0893	0.0893		0.0862	0.0862	0.0000	236.9194	236.9194	0.0423	0.0000	237.9768
Total	**0.2365**	**1.7795**	**1.6834**	**2.8800e-003**		**0.0893**	**0.0893**		**0.0862**	**0.0862**	**0.0000**	**236.9194**	**236.9194**	**0.0423**	**0.0000**	**237.9768**

3.6 Building Construction - 2021

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0179	0.5632	0.1499	1.4800e-003	0.0361	1.2500e-003	0.0373	0.0104	1.1900e-003	0.0116	0.0000	141.9740	141.9740	6.1900e-003	0.0000	142.1287
Worker	0.0426	0.0295	0.3164	1.0000e-003	0.1097	6.9000e-004	0.1104	0.0292	6.4000e-004	0.0298	0.0000	90.8194	90.8194	2.0700e-003	0.0000	90.8711
Total	**0.0605**	**0.5927**	**0.4664**	**2.4800e-003**	**0.1458**	**1.9400e-003**	**0.1477**	**0.0396**	**1.8300e-003**	**0.0414**	**0.0000**	**232.7934**	**232.7934**	**8.2600e-003**	**0.0000**	**232.9998**

3.6 Building Construction - 2022

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	0.0206	0.1563	0.1591	2.8000e-004		7.3600e-003	7.3600e-003		7.1100e-003	7.1100e-003	0.0000	22.6971	22.6971	3.9500e-003	0.0000	22.7959
Total	**0.0206**	**0.1563**	**0.1591**	**2.8000e-004**		**7.3600e-003**	**7.3600e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**22.6971**	**22.6971**	**3.9500e-003**	**0.0000**	**22.7959**

3.6 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0510	0.0135	1.4000e-004	3.4500e-003	1.0000e-004	3.5600e-003	1.0000e-003	1.0000e-004	1.1000e-003	0.0000	13.4689	13.4689	5.7000e-004	0.0000	13.4831
Worker	3.8100e-003	2.5400e-003	0.0279	9.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8500e-003	0.0000	8.3832	8.3832	1.8000e-004	0.0000	8.3876
Total	**5.4100e-003**	**0.0535**	**0.0414**	**2.3000e-004**	**0.0140**	**1.6000e-004**	**0.0141**	**3.7900e-003**	**1.6000e-004**	**3.9500e-003**	**0.0000**	**21.8521**	**21.8521**	**7.5000e-004**	**0.0000**	**21.8707**

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	0.0206	0.1563	0.1591	2.8000e-004		7.3600e-003	7.3600e-003		7.1100e-003	7.1100e-003	0.0000	22.6971	22.6971	3.9500e-003	0.0000	22.7959
Total	**0.0206**	**0.1563**	**0.1591**	**2.8000e-004**		**7.3600e-003**	**7.3600e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**22.6971**	**22.6971**	**3.9500e-003**	**0.0000**	**22.7959**

3.6 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0510	0.0135	1.4000e-004	3.4500e-003	1.0000e-004	3.5600e-003	1.0000e-003	1.0000e-004	1.1000e-003	0.0000	13.4689	13.4689	5.7000e-004	0.0000	13.4831
Worker	3.8100e-003	2.5400e-003	0.0279	9.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8500e-003	0.0000	8.3832	8.3832	1.8000e-004	0.0000	8.3876
Total	**5.4100e-003**	**0.0535**	**0.0414**	**2.3000e-004**	**0.0140**	**1.6000e-004**	**0.0141**	**3.7900e-003**	**1.6000e-004**	**3.9500e-003**	**0.0000**	**21.8521**	**21.8521**	**7.5000e-004**	**0.0000**	**21.8707**

3.7 Paving - 2022

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9800e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.3700e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4113	0.4113	1.0000e-005	0.0000	0.4115
Total	**1.9000e-004**	**1.2000e-004**	**1.3700e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4115**

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9314
Paving	5.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9800e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9314**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.3700e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4113	0.4113	1.0000e-005	0.0000	0.4115
Total	**1.9000e-004**	**1.2000e-004**	**1.3700e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4115**

3.8 Architectural Coating - 2022

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	0.7504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7525**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.8 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.0000e-004	4.4200e-003	1.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3287	1.3287	3.0000e-005	0.0000	1.3294
Total	**6.0000e-004**	**4.0000e-004**	**4.4200e-003**	**1.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3287**	**1.3287**	**3.0000e-005**	**0.0000**	**1.3294**

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	0.7504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7525**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.8 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.0000e-004	4.4200e-003	1.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3287	1.3287	3.0000e-005	0.0000	1.3294
Total	**6.0000e-004**	**4.0000e-004**	**4.4200e-003**	**1.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3287**	**1.3287**	**3.0000e-005**	**0.0000**	**1.3294**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

	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					
Mitigated	0.3619	1.4753	3.8894	0.0129	1.1727	0.0111	1.1838	0.3139	0.0104	0.3243	0.0000	1,182.0688	1,182.0688	0.0417	0.0000	1,183.1103
Unmitigated	0.3619	1.4753	3.8894	0.0129	1.1727	0.0111	1.1838	0.3139	0.0104	0.3243	0.0000	1,182.0688	1,182.0688	0.0417	0.0000	1,183.1103

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	3,153,581	3,153,581
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	3,153,581	3,153,581

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	549.9107	549.9107	0.0249	5.1400e-003	552.0654
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	549.9107	549.9107	0.0249	5.1400e-003	552.0654
NaturalGas Mitigated	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	419.9311	419.9311	8.0500e-003	7.7000e-003	422.4265
NaturalGas Unmitigated	0.0424	0.3858	0.3240	2.3100e-003		0.0293	0.0293		0.0293	0.0293	0.0000	419.9311	419.9311	8.0500e-003	7.7000e-003	422.4265

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	5.71599e+006	0.0308	0.2802	0.2354	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	305.0270	305.0270	5.8500e-003	5.5900e-003	306.8396
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.15322e+006	0.0116	0.1056	0.0887	6.3000e-004		8.0200e-003	8.0200e-003		8.0200e-003	8.0200e-003	0.0000	114.9041	114.9041	2.2000e-003	2.1100e-003	115.5869
Total		**0.0424**	**0.3858**	**0.3240**	**2.3100e-003**		**0.0293**	**0.0293**		**0.0293**	**0.0293**	**0.0000**	**419.9311**	**419.9311**	**8.0500e-003**	**7.7000e-003**	**422.4265**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	5.71599e+006	0.0308	0.2802	0.2354	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	305.0270	305.0270	5.8500e-003	5.5900e-003	306.8396
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.15322e+006	0.0116	0.1056	0.0887	6.3000e-004		8.0200e-003	8.0200e-003		8.0200e-003	8.0200e-003	0.0000	114.9041	114.9041	2.2000e-003	2.1100e-003	115.5869
Total		**0.0424**	**0.3858**	**0.3240**	**2.3100e-003**		**0.0293**	**0.0293**		**0.0293**	**0.0293**	**0.0000**	**419.9311**	**419.9311**	**8.0500e-003**	**7.7000e-003**	**422.4265**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	562109	163.5239	7.3900e-003	1.5300e-003	164.1646
Hotel	982980	285.9602	0.0129	2.6800e-003	287.0806
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Quality Restaurant	338914	98.5939	4.4600e-003	9.2000e-004	98.9802
Total		**549.9107**	**0.0249**	**5.1500e-003**	**552.0654**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	562109	163.5239	7.3900e-003	1.5300e-003	164.1646
Hotel	982980	285.9602	0.0129	2.6800e-003	287.0806
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	6300	1.8327	8.0000e-005	2.0000e-005	1.8399
Quality Restaurant	338914	98.5939	4.4600e-003	9.2000e-004	98.9802
Total		**549.9107**	**0.0249**	**5.1500e-003**	**552.0654**

6.0 Area Detail

6.1 Mitigation Measures Area

	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					
Mitigated	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Unmitigated	0.6269	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Total	**0.6269**	**2.0000e-005**	**2.7000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2400e-003**	**5.2400e-003**	**1.0000e-005**	**0.0000**	**5.5800e-003**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2400e-003	5.2400e-003	1.0000e-005	0.0000	5.5800e-003
Total	**0.6269**	**2.0000e-005**	**2.7000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2400e-003**	**5.2400e-003**	**1.0000e-005**	**0.0000**	**5.5800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.5604	0.4653	0.0112	42.5242
Unmitigated	27.6002	0.4653	0.0112	42.5641

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.1033 / 0.439691	21.4482	0.3626	8.7100e-003	33.1093
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.14461 / 0.20072	6.1520	0.1027	2.4700e-003	9.4549
Total		**27.6002**	**0.4653**	**0.0112**	**42.5642**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	11.1033 / 0.41287	21.4209	0.3626	8.7100e-003	33.0818
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.14461 / 0.188476	6.1395	0.1027	2.4700e-003	9.4424
Total		**27.5604**	**0.4653**	**0.0112**	**42.5242**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.2557	1.1380	0.0000	47.7052
Unmitigated	19.2557	1.1380	0.0000	47.7052

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	85.41	17.3375	1.0246	0.0000	42.9528
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	9.45	1.9183	0.1134	0.0000	4.7524
Total		**19.2557**	**1.1380**	**0.0000**	**47.7052**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	85.41	17.3375	1.0246	0.0000	42.9528
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	9.45	1.9183	0.1134	0.0000	4.7524
Total		**19.2557**	**1.1380**	**0.0000**	**47.7052**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

De Anza Construction & Operation 2022

Santa Clara County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization Urban
Wind Speed (m/s) 2.2
Precipitation Freq (Days) 58
Climate Zone 4
Operational Year 2022

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35
CH4 Intensity (lb/MWhr) 0.029
N2O Intensity (lb/MWhr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00

tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00
tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	5.2352	115.9627	30.7353	0.2687	14.7060	1.6527	16.3588	6.4861	1.5309	8.0170	0.0000	28,380.0143	28,380.0143	2.0223	0.0000	28,430.5711
2021	2.2878	18.1080	16.6467	0.0418	1.1551	0.6991	1.8542	0.3128	0.6747	0.9875	0.0000	4,038.1124	4,038.1124	0.4265	0.0000	4,048.7755
2022	75.3101	16.7235	16.2013	0.0414	1.1551	0.6023	1.7574	0.3128	0.5815	0.8943	0.0000	3,996.9345	3,996.9345	0.4137	0.0000	4,007.2768
Maximum	**75.3101**	**115.9627**	**30.7353**	**0.2687**	**14.7060**	**1.6527**	**16.3588**	**6.4861**	**1.5309**	**8.0170**	**0.0000**	**28,380.0143**	**28,380.0143**	**2.0223**	**0.0000**	**28,430.5711**

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	lb/day										lb/day					
2020	5.2352	115.9627	30.7353	0.2687	14.7060	1.6527	16.3588	6.4861	1.5309	8.0170	0.0000	28,380.0143	28,380.0143	2.0223	0.0000	28,430.5711
2021	2.2878	18.1080	16.6467	0.0418	1.1551	0.6991	1.8542	0.3128	0.6747	0.9875	0.0000	4,038.1124	4,038.1124	0.4265	0.0000	4,048.7755
2022	75.3101	16.7235	16.2013	0.0414	1.1551	0.6023	1.7574	0.3128	0.5815	0.8943	0.0000	3,996.9345	3,996.9345	0.4137	0.0000	4,007.2768
Maximum	**75.3101**	**115.9627**	**30.7353**	**0.2687**	**14.7060**	**1.6527**	**16.3588**	**6.4861**	**1.5309**	**8.0170**	**0.0000**	**28,380.0143**	**28,380.0143**	**2.0223**	**0.0000**	**28,430.5711**

	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	N20	CO2e
Percent Reduction	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

2.2 Overall Operational

Unmitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.3001	7.8751	22.1764	0.0752	6.6708	0.0609	6.7317	1.7806	0.0569	1.8375		7,588.4581	7,588.4581	0.2539		7,594.8063
Total	**5.9692**	**9.9890**	**23.9818**	**0.0879**	**6.6708**	**0.2217**	**6.8925**	**1.7806**	**0.2176**	**1.9982**		**10,124.9319**	**10,124.9319**	**0.3027**	**0.0465**	**10,146.3570**

Mitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	2.3001	7.8751	22.1764	0.0752	6.6708	0.0609	6.7317	1.7806	0.0569	1.8375		7,588.4581	7,588.4581	0.2539		7,594.8063
Total	**5.9692**	**9.9890**	**23.9818**	**0.0879**	**6.6708**	**0.2217**	**6.8925**	**1.7806**	**0.2176**	**1.9982**		**10,124.9319**	**10,124.9319**	**0.3027**	**0.0465**	**10,146.3570**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**		**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0649	2.2464	0.4549	6.2700e-003	0.1381	7.4000e-003	0.1455	0.0378	7.0800e-003	0.0449		668.9482	668.9482	0.0298		669.6925
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0452	0.0278	0.3575	1.0500e-003	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		104.7808	104.7808	2.5600e-003		104.8449
Total	**0.1256**	**2.7240**	**0.9263**	**8.4200e-003**	**0.2719**	**0.0103**	**0.2822**	**0.0740**	**9.8300e-003**	**0.0838**		**890.2486**	**890.2486**	**0.0374**		**891.1848**

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0649	2.2464	0.4549	6.2700e-003	0.1381	7.4000e-003	0.1455	0.0378	7.0800e-003	0.0449		668.9482	668.9482	0.0298		669.6925
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0452	0.0278	0.3575	1.0500e-003	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		104.7808	104.7808	2.5600e-003		104.8449
Total	**0.1256**	**2.7240**	**0.9263**	**8.4200e-003**	**0.2719**	**0.0103**	**0.2822**	**0.0740**	**9.8300e-003**	**0.0838**		**890.2486**	**890.2486**	**0.0374**		**891.1848**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**	**0.0000**	**1,365.718 3**	**1,365.718 3**	**0.4417**		**1,376.760 9**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0155	0.4498	0.1139	1.1000e-003	0.0271	2.2400e-003	0.0293	7.8000e-003	2.1400e-003	9.9400e-003		116.5196	116.5196	5.1100e-003		116.6473
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**0.0434**	**0.4669**	**0.3340**	**1.7500e-003**	**0.0928**	**2.6500e-003**	**0.0955**	**0.0252**	**2.5200e-003**	**0.0278**		**181.0001**	**181.0001**	**6.6900e-003**		**181.1673**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**		**1,365.718 3**	**1,365.718 3**	**0.4417**		**1,376.760 9**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.4644	85.3080	17.2727	0.2381	5.2430	0.2809	5.5239	1.4370	0.2688	1.7057		25,403.0970	25,403.0970	1.1306		25,431.3621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**2.4922**	**85.3251**	**17.4928**	**0.2387**	**5.3087**	**0.2813**	**5.5900**	**1.4544**	**0.2691**	**1.7235**		**25,467.5776**	**25,467.5776**	**1.1322**		**25,495.8821**

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.4644	85.3080	17.2727	0.2381	5.2430	0.2809	5.5239	1.4370	0.2688	1.7057		25,403.0970	25,403.0970	1.1306		25,431.3621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0278	0.0171	0.2200	6.5000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		64.4805	64.4805	1.5800e-003		64.5200
Total	**2.4922**	**85.3251**	**17.4928**	**0.2387**	**5.3087**	**0.2813**	**5.5900**	**1.4544**	**0.2691**	**1.7235**		**25,467.5776**	**25,467.5776**	**1.1322**		**25,495.8821**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1632	4.7231	1.1962	0.0116	0.2844	0.0235	0.3079	0.0819	0.0225	0.1044		1,223.4553	1,223.4553	0.0537		1,224.7971
Worker	0.3684	0.2262	2.9154	8.5700e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		854.3668	854.3668	0.0209		854.8895
Total	**0.5316**	**4.9494**	**4.1115**	**0.0202**	**1.1551**	**0.0290**	**1.1841**	**0.3128**	**0.0275**	**0.3403**		**2,077.8221**	**2,077.8221**	**0.0746**		**2,079.6866**

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**	**0.0000**	**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.6 Building Construction - 2020

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					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1632	4.7231	1.1962	0.0116	0.2844	0.0235	0.3079	0.0819	0.0225	0.1044		1,223.455 3	1,223.455 3	0.0537		1,224.797 1
Worker	0.3684	0.2262	2.9154	8.5700e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		854.3668	854.3668	0.0209		854.8895
Total	**0.5316**	**4.9494**	**4.1115**	**0.0202**	**1.1551**	**0.0290**	**1.1841**	**0.3128**	**0.0275**	**0.3403**		**2,077.822 1**	**2,077.822 1**	**0.0746**		**2,079.686 6**

3.6 Building Construction - 2021

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					lb/day								lb/day			
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.220 0	2,001.220 0	0.3573		2,010.151 7
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.220 0**	**2,001.220 0**	**0.3573**		**2,010.151 7**

3.6 Building Construction - 2021

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						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1339	4.2697	1.0761	0.0115	0.2844	9.4400e-003	0.2938	0.0819	9.0300e-003	0.0909		1,212.2009	1,212.2009	0.0505		1,213.4639
Worker	0.3413	0.2022	2.6712	8.2700e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		824.6915	824.6915	0.0187		825.1600
Total	**0.4753**	**4.4719**	**3.7473**	**0.0197**	**1.1551**	**0.0147**	**1.1699**	**0.3128**	**0.0139**	**0.3267**		**2,036.8924**	**2,036.8924**	**0.0693**		**2,038.6238**

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						lb/day							lb/day			
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1339	4.2697	1.0761	0.0115	0.2844	9.4400e-003	0.2938	0.0819	9.0300e-003	0.0909		1,212.2009	1,212.2009	0.0505		1,213.4639
Worker	0.3413	0.2022	2.6712	8.2700e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		824.6915	824.6915	0.0187		825.1600
Total	**0.4753**	**4.4719**	**3.7473**	**0.0197**	**1.1551**	**0.0147**	**1.1699**	**0.3128**	**0.0139**	**0.3267**		**2,036.8924**	**2,036.8924**	**0.0693**		**2,038.6238**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1249	4.0389	1.0135	0.0114	0.2844	8.2000e-003	0.2926	0.0819	7.8400e-003	0.0897		1,200.6876	1,200.6876	0.0483		1,201.8940
Worker	0.3181	0.1815	2.4615	7.9700e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		794.7040	794.7040	0.0168		795.1247
Total	**0.4430**	**4.2204**	**3.4749**	**0.0193**	**1.1551**	**0.0134**	**1.1685**	**0.3128**	**0.0126**	**0.3254**		**1,995.3917**	**1,995.3917**	**0.0651**		**1,997.0187**

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						lb/day							lb/day			
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1249	4.0389	1.0135	0.0114	0.2844	8.2000e-003	0.2926	0.0819	7.8400e-003	0.0897		1,200.6876	1,200.6876	0.0483		1,201.8940
Worker	0.3181	0.1815	2.4615	7.9700e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		794.7040	794.7040	0.0168		795.1247
Total	**0.4430**	**4.2204**	**3.4749**	**0.0193**	**1.1551**	**0.0134**	**1.1685**	**0.3128**	**0.0126**	**0.3254**		**1,995.3917**	**1,995.3917**	**0.0651**		**1,997.0187**

3.7 Paving - 2022

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						lb/day								lb/day		
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0390	0.0223	0.3019	9.8000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		97.4637	97.4637	2.0600e-003		97.5153
Total	**0.0390**	**0.0223**	**0.3019**	**9.8000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**97.4637**	**97.4637**	**2.0600e-003**		**97.5153**

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0390	0.0223	0.3019	9.8000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		97.4637	97.4637	2.0600e-003		97.5153
Total	**0.0390**	**0.0223**	**0.3019**	**9.8000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**97.4637**	**97.4637**	**2.0600e-003**		**97.5153**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0360	0.4877	1.5800e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		157.4414	157.4414	3.3300e-003		157.5247
Total	**0.0630**	**0.0360**	**0.4877**	**1.5800e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**157.4414**	**157.4414**	**3.3300e-003**		**157.5247**

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						lb/day							lb/day			
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0630	0.0360	0.4877	1.5800e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		157.4414	157.4414	3.3300e-003		157.5247
Total	**0.0630**	**0.0360**	**0.4877**	**1.5800e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**157.4414**	**157.4414**	**3.3300e-003**		**157.5247**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

	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	lb/day										lb/day					
Mitigated	2.3001	7.8751	22.1764	0.0752	6.6708	0.0609	6.7317	1.7806	0.0569	1.8375		7,588.4581	7,588.4581	0.2539		7,594.8063
Unmitigated	2.3001	7.8751	22.1764	0.0752	6.6708	0.0609	6.7317	1.7806	0.0569	1.8375		7,588.4581	7,588.4581	0.2539		7,594.8063

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	3,153,581	3,153,581
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	3,153,581	3,153,581

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	lb/day										lb/day					
NaturalGas Mitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.409 7	2,536.409 7	0.0486	0.0465	2,551.482 3
NaturalGas Unmitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.409 7	2,536.409 7	0.0486	0.0465	2,551.482 3

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15660.2	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5899.24	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15.6602	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.89924	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Unmitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

De Anza Construction & Operation 2022

Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	95.92	1000sqft	0.01	95,923.00	0
Other Non-Asphalt Surfaces	12.86	1000sqft	0.30	0.00	0
Parking Lot	18.00	1000sqft	0.41	18,000.00	0
Hotel	156.00	Room	0.42	129,000.00	0
Quality Restaurant	10.36	1000sqft	0.24	10,358.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about intensity factors.

Land Use - Consistent with IS's model. See SWAPE comment about parking lot and hotel land use sizes.

Construction Phase - Consistent with IS's model.

Off-road Equipment - No change. See SWAPE comment about equipment unit amounts.

Trips and VMT - Consistent with IS's model.

Demolition -

Grading - Consistent with IS's model. See SWAPE comment about grading.

Vehicle Trips - Consistent with IS's model.

Energy Use -

Water And Wastewater - See SWAPE comment about water use rates and wastewater treatment system percentages.

Solid Waste - See SWAPE comment about solid waste generation rates.

Land Use Change -

Construction Off-road Equipment Mitigation - See SWAPE comment about construction mitigation measures.

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	350.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	5.00
tblGrading	AcresOfGrading	11.25	0.00
tblGrading	AcresOfGrading	11.25	0.00

tblGrading	MaterialExported	0.00	72,000.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	129,000.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblTripsAndVMT	HaulingTripNumber	64.00	79.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	8.19	10.64
tblVehicleTrips	ST_TR	94.36	0.00
tblVehicleTrips	SU_TR	5.95	10.64
tblVehicleTrips	SU_TR	72.16	0.00
tblVehicleTrips	WD_TR	8.17	10.64
tblVehicleTrips	WD_TR	89.95	0.00
tblWater	IndoorWaterUseRate	3,957,216.12	11,103,300.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2020	5.3075	118.0569	32.0336	0.2645	14.7060	1.6574	16.3634	6.4861	1.5353	8.0214	0.0000	27,935.9789	27,935.9789	2.0757	0.0000	27,987.8715
2021	2.3181	18.1908	16.5975	0.0408	1.1551	0.6994	1.8545	0.3128	0.6750	0.9878	0.0000	3,940.2102	3,940.2102	0.4291	0.0000	3,950.9378
2022	75.3144	16.7953	16.1502	0.0404	1.1551	0.6025	1.7577	0.3128	0.5817	0.8946	0.0000	3,901.5998	3,901.5998	0.4162	0.0000	3,912.0036
Maximum	**75.3144**	**118.0569**	**32.0336**	**0.2645**	**14.7060**	**1.6574**	**16.3634**	**6.4861**	**1.5353**	**8.0214**	**0.0000**	**27,935.9789**	**27,935.9789**	**2.0757**	**0.0000**	**27,987.8715**

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	lb/day										lb/day					
2020	5.3075	118.0569	32.0336	0.2645	14.7060	1.6574	16.3634	6.4861	1.5353	8.0214	0.0000	27,935.9789	27,935.9789	2.0757	0.0000	27,987.8715
2021	2.3181	18.1908	16.5975	0.0408	1.1551	0.6994	1.8545	0.3128	0.6750	0.9878	0.0000	3,940.2102	3,940.2102	0.4291	0.0000	3,950.9378
2022	75.3144	16.7953	16.1502	0.0404	1.1551	0.6025	1.7577	0.3128	0.5817	0.8946	0.0000	3,901.5998	3,901.5998	0.4162	0.0000	3,912.0036
Maximum	**75.3144**	**118.0569**	**32.0336**	**0.2645**	**14.7060**	**1.6574**	**16.3634**	**6.4861**	**1.5353**	**8.0214**	**0.0000**	**27,935.9789**	**27,935.9789**	**2.0757**	**0.0000**	**27,987.8715**

	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	N20	CO2e
Percent Reduction	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

2.2 Overall Operational

Unmitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	1.9741	8.2505	22.3856	0.0701	6.6708	0.0614	6.7322	1.7806	0.0573	1.8379		7,072.5143	7,072.5143	0.2591		7,078.9921
Total	**5.6432**	**10.3644**	**24.1911**	**0.0828**	**6.6708**	**0.2221**	**6.8929**	**1.7806**	**0.2181**	**1.9987**		**9,608.9882**	**9,608.9882**	**0.3079**	**0.0465**	**9,630.5428**

Mitigated Operational

	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	lb/day										lb/day					
Area	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Energy	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.4097	2,536.4097	0.0486	0.0465	2,551.4823
Mobile	1.9741	8.2505	22.3856	0.0701	6.6708	0.0614	6.7322	1.7806	0.0573	1.8379		7,072.5143	7,072.5143	0.2591		7,078.9921
Total	**5.6432**	**10.3644**	**24.1911**	**0.0828**	**6.6708**	**0.2221**	**6.8929**	**1.7806**	**0.2181**	**1.9987**		**9,608.9882**	**9,608.9882**	**0.3079**	**0.0465**	**9,630.5428**

	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	N20	CO2e
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/3/2020	8/14/2020	5	10	
2	Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	5	
3	Grading	Grading	8/24/2020	10/2/2020	5	30	
4	Grading Soil Haul	Grading	8/24/2020	10/2/2020	5	30	
5	Building Construction	Building Construction	10/5/2020	2/4/2022	5	350	
6	Paving	Paving	2/7/2022	2/18/2022	5	10	
7	Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	5	20	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.72

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 209,037; Non-Residential Outdoor: 69,679; Striped Parking Area: 6,835 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading Soil Haul	Graders	1	6.00	187	0.41
Grading Soil Haul	Rubber Tired Dozers	1	6.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	3	8.00	0.00	9,000.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.312 7	2,322.312 7	0.5970		2,337.236 3
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**		**2,322.312 7**	**2,322.312 7**	**0.5970**		**2,337.236 3**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0667	2.3013	0.4895	6.1600e-003	0.1381	7.5200e-003	0.1456	0.0378	7.1900e-003	0.0450		657.6093	657.6093	0.0312		658.3887
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0481	0.0339	0.3313	9.7000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		96.2606	96.2606	2.3900e-003		96.3203
Total	**0.1311**	**2.7902**	**0.9506**	**8.2000e-003**	**0.2719**	**0.0105**	**0.2824**	**0.0740**	**9.9800e-003**	**0.0839**		**867.4316**	**867.4316**	**0.0391**		**868.4082**

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	lb/day										lb/day					
Fugitive Dust					1.3781	0.0000	1.3781	0.2087	0.0000	0.2087			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	**2.1262**	**20.9463**	**14.6573**	**0.0241**	**1.3781**	**1.1525**	**2.5306**	**0.2087**	**1.0761**	**1.2848**	**0.0000**	**2,322.3127**	**2,322.3127**	**0.5970**		**2,337.2363**

3.2 Demolition - 2020

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	lb/day										lb/day					
Hauling	0.0667	2.3013	0.4895	6.1600e-003	0.1381	7.5200e-003	0.1456	0.0378	7.1900e-003	0.0450		657.6093	657.6093	0.0312		658.3887
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0481	0.0339	0.3313	9.7000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.1000e-004	0.0289		96.2606	96.2606	2.3900e-003		96.3203
Total	**0.1311**	**2.7902**	**0.9506**	**8.2000e-003**	**0.2719**	**0.0105**	**0.2824**	**0.0740**	**9.9800e-003**	**0.0839**		**867.4316**	**867.4316**	**0.0391**		**868.4082**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**		**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

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	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	**1.6299**	**18.3464**	**7.7093**	**0.0172**	**5.7996**	**0.8210**	**6.6205**	**2.9537**	**0.7553**	**3.7090**	**0.0000**	**1,667.4119**	**1,667.4119**	**0.5393**		**1,680.8937**

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

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	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.5166**	**0.6844**	**5.2009**	**2.4827**	**0.6296**	**3.1123**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0164	0.4550	0.1298	1.0700e-003	0.0271	2.2800e-003	0.0294	7.8000e-003	2.1800e-003	9.9700e-003		113.5616	113.5616	5.5100e-003		113.6993
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**0.0459**	**0.4759**	**0.3337**	**1.6600e-003**	**0.0928**	**2.6900e-003**	**0.0955**	**0.0252**	**2.5600e-003**	**0.0278**		**172.7989**	**172.7989**	**6.9800e-003**		**172.9733**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**		**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.5324	87.3895	18.5875	0.2341	5.2430	0.2855	5.5285	1.4370	0.2731	1.7101		24,972.5060	24,972.5060	1.1839		25,002.1025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**2.5620**	**87.4103**	**18.7914**	**0.2347**	**5.3087**	**0.2859**	**5.5946**	**1.4544**	**0.2735**	**1.7279**		**25,031.7433**	**25,031.7433**	**1.1853**		**25,061.3765**

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	lb/day										lb/day					
Fugitive Dust					4.7880	0.0000	4.7880	2.5238	0.0000	2.5238			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	**1.3498**	**15.0854**	**6.4543**	**0.0141**	**4.7880**	**0.6844**	**5.4724**	**2.5238**	**0.6296**	**3.1534**	**0.0000**	**1,365.7183**	**1,365.7183**	**0.4417**		**1,376.7609**

3.5 Grading Soil Haul - 2020

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	lb/day										lb/day					
Hauling	2.5324	87.3895	18.5875	0.2341	5.2430	0.2855	5.5285	1.4370	0.2731	1.7101		24,972.5060	24,972.5060	1.1839		25,002.1025
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	**2.5620**	**87.4103**	**18.7914**	**0.2347**	**5.3087**	**0.2859**	**5.5946**	**1.4544**	**0.2735**	**1.7279**		**25,031.7433**	**25,031.7433**	**1.1853**		**25,061.3765**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**		**2,001.1595**	**2,001.1595**	**0.3715**		**2,010.4467**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1717	4.7777	1.3629	0.0113	0.2844	0.0239	0.3083	0.0819	0.0229	0.1047		1,192.397 2	1,192.397 2	0.0578		1,193.842 3
Worker	0.3919	0.2764	2.7014	7.8800e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		784.8941	784.8941	0.0195		785.3806
Total	**0.5636**	**5.0540**	**4.0642**	**0.0192**	**1.1551**	**0.0293**	**1.1845**	**0.3128**	**0.0279**	**0.3407**		**1,977.291 3**	**1,977.291 3**	**0.0773**		**1,979.222 9**

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	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.159 5	2,001.159 5	0.3715		2,010.446 7
Total	**2.0305**	**14.7882**	**13.1881**	**0.0220**		**0.7960**	**0.7960**		**0.7688**	**0.7688**	**0.0000**	**2,001.159 5**	**2,001.159 5**	**0.3715**		**2,010.446 7**

3.6 Building Construction - 2020

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1717	4.7777	1.3629	0.0113	0.2844	0.0239	0.3083	0.0819	0.0229	0.1047		1,192.397 2	1,192.397 2	0.0578		1,193.842 3
Worker	0.3919	0.2764	2.7014	7.8800e-003	0.8708	5.4300e-003	0.8762	0.2310	5.0000e-003	0.2360		784.8941	784.8941	0.0195		785.3806
Total	**0.5636**	**5.0540**	**4.0642**	**0.0192**	**1.1551**	**0.0293**	**1.1845**	**0.3128**	**0.0279**	**0.3407**		**1,977.291 3**	**1,977.291 3**	**0.0773**		**1,979.222 9**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.220 0	2,001.220 0	0.3573		2,010.151 7
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.220 0**	**2,001.220 0**	**0.3573**		**2,010.151 7**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1419	4.3078	1.2321	0.0112	0.2844	9.7500e-003	0.2941	0.0819	9.3200e-003	0.0912		1,181.3360	1,181.3360	0.0544		1,182.6971
Worker	0.3637	0.2470	2.4660	7.6000e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		757.6542	757.6542	0.0174		758.0891
Total	**0.5056**	**4.5547**	**3.6982**	**0.0188**	**1.1551**	**0.0150**	**1.1702**	**0.3128**	**0.0142**	**0.3270**		**1,938.9902**	**1,938.9902**	**0.0718**		**1,940.7861**

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	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

3.6 Building Construction - 2021

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1419	4.3078	1.2321	0.0112	0.2844	9.7500e-003	0.2941	0.0819	9.3200e-003	0.0912		1,181.3360	1,181.3360	0.0544		1,182.6971
Worker	0.3637	0.2470	2.4660	7.6000e-003	0.8708	5.2900e-003	0.8761	0.2310	4.8700e-003	0.2358		757.6542	757.6542	0.0174		758.0891
Total	**0.5056**	**4.5547**	**3.6982**	**0.0188**	**1.1551**	**0.0150**	**1.1702**	**0.3128**	**0.0142**	**0.3270**		**1,938.9902**	**1,938.9902**	**0.0718**		**1,940.7861**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1324	4.0707	1.1605	0.0111	0.2844	8.4800e-003	0.2929	0.0819	8.1100e-003	0.0900		1,169.918 4	1,169.918 4	0.0520		1,171.217 6
Worker	0.3399	0.2216	2.2633	7.3200e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		730.1386	730.1386	0.0156		730.5280
Total	**0.4723**	**4.2922**	**3.4238**	**0.0184**	**1.1551**	**0.0137**	**1.1688**	**0.3128**	**0.0129**	**0.3257**		**1,900.056 9**	**1,900.056 9**	**0.0676**		**1,901.745 5**

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	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.542 9	2,001.542 9	0.3486		2,010.258 1
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.542 9**	**2,001.542 9**	**0.3486**		**2,010.258 1**

3.6 Building Construction - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1324	4.0707	1.1605	0.0111	0.2844	8.4800e-003	0.2929	0.0819	8.1100e-003	0.0900		1,169.9184	1,169.9184	0.0520		1,171.2176
Worker	0.3399	0.2216	2.2633	7.3200e-003	0.8708	5.1700e-003	0.8759	0.2310	4.7600e-003	0.2357		730.1386	730.1386	0.0156		730.5280
Total	**0.4723**	**4.2922**	**3.4238**	**0.0184**	**1.1551**	**0.0137**	**1.1688**	**0.3128**	**0.0129**	**0.3257**		**1,900.0569**	**1,900.0569**	**0.0676**		**1,901.7455**

3.7 Paving - 2022

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0417	0.0272	0.2776	9.0000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		89.5453	89.5453	1.9100e-003		89.5931
Total	**0.0417**	**0.0272**	**0.2776**	**9.0000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**89.5453**	**89.5453**	**1.9100e-003**		**89.5931**

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	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7951**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

3.7 Paving - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0417	0.0272	0.2776	9.0000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		89.5453	89.5453	1.9100e-003		89.5931
Total	**0.0417**	**0.0272**	**0.2776**	**9.0000e-004**	**0.1068**	**6.3000e-004**	**0.1074**	**0.0283**	**5.8000e-004**	**0.0289**		**89.5453**	**89.5453**	**1.9100e-003**		**89.5931**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0439	0.4484	1.4500e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		144.6501	144.6501	3.0900e-003		144.7272
Total	**0.0673**	**0.0439**	**0.4484**	**1.4500e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**144.6501**	**144.6501**	**3.0900e-003**		**144.7272**

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	lb/day										lb/day					
Archit. Coating	75.0425					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**75.2470**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.8 Architectural Coating - 2022

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0673	0.0439	0.4484	1.4500e-003	0.1725	1.0200e-003	0.1735	0.0458	9.4000e-004	0.0467		144.6501	144.6501	3.0900e-003		144.7272
Total	**0.0673**	**0.0439**	**0.4484**	**1.4500e-003**	**0.1725**	**1.0200e-003**	**0.1735**	**0.0458**	**9.4000e-004**	**0.0467**		**144.6501**	**144.6501**	**3.0900e-003**		**144.7272**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

Category	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
	lb/day										lb/day					
Mitigated	1.9741	8.2505	22.3856	0.0701	6.6708	0.0614	6.7322	1.7806	0.0573	1.8379		7,072.514 3	7,072.514 3	0.2591		7,078.992 1
Unmitigated	1.9741	8.2505	22.3856	0.0701	6.6708	0.0614	6.7322	1.7806	0.0573	1.8379		7,072.514 3	7,072.514 3	0.2591		7,078.992 1

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,659.84	1,659.84	1659.84	3,153,581	3,153,581
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	0.00	0.00	0.00		
Total	1,659.84	1,659.84	1,659.84	3,153,581	3,153,581

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Hotel	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Quality Restaurant	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	lb/day										lb/day					
NaturalGas Mitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.409 7	2,536.409 7	0.0486	0.0465	2,551.482 3
NaturalGas Unmitigated	0.2325	2.1137	1.7755	0.0127		0.1606	0.1606		0.1606	0.1606		2,536.409 7	2,536.409 7	0.0486	0.0465	2,551.482 3

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15660.2	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5899.24	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	15.6602	0.1689	1.5353	1.2897	9.2100e-003		0.1167	0.1167		0.1167	0.1167		1,842.3820	1,842.3820	0.0353	0.0338	1,853.3303
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.89924	0.0636	0.5784	0.4858	3.4700e-003		0.0440	0.0440		0.0440	0.0440		694.0277	694.0277	0.0133	0.0127	698.1520
Total		**0.2325**	**2.1137**	**1.7755**	**0.0127**		**0.1606**	**0.1606**		**0.1606**	**0.1606**		**2,536.4097**	**2,536.4097**	**0.0486**	**0.0465**	**2,551.4823**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	lb/day										lb/day					
Mitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Unmitigated	3.4366	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.4112					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0226					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7900e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0642	0.0642	1.7000e-004		0.0684
Total	**3.4366**	**2.7000e-004**	**0.0300**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**		**0.0642**	**0.0642**	**1.7000e-004**		**0.0684**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

AERSCREEN 16216 / AERMOD 19191 01/16/20
13:43:40

TITLE: De Anza Construction

****************************** AREA PARAMETERS ****************************

SOURCE EMISSION RATE:	0.112E-02 g/s	0.891E-02 lb/hr
AREA EMISSION RATE:	0.215E-06 g/(s-m2)	0.171E-05 lb/(hr-m2)
AREA HEIGHT:	3.00 meters	9.84 feet
AREA SOURCE LONG SIDE:	95.00 meters	311.68 feet
AREA SOURCE SHORT SIDE:	55.00 meters	180.45 feet
INITIAL VERTICAL DIMENSION:	1.50 meters	4.92 feet
RURAL OR URBAN:	URBAN	
POPULATION:	60777	
INITIAL PROBE DISTANCE =	5000. meters	16404. feet

*********************** BUILDING DOWNWASH PARAMETERS **********************

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

************************* FLOW SECTOR ANALYSIS ***************************
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	5.141	15	50.0	WIN

* = worst case diagonal

```
*********************  MAKEMET METEOROLOGY PARAMETERS  ********************
-----------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:      10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

   H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50

   HT  REF TA     HT
 - - - - - - - - - - -
  10.0   310.0    2.0


-----------------------------------------------------------------------------
*********************** AERSCREEN AUTOMATED DISTANCES **********************
                 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
-----------------------------------------------------------------------------
```

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	3.727	2525.00	0.2584E-01

25.00	4.568
50.00	5.141
75.00	3.111
100.00	2.086
125.00	1.546
150.00	1.209
175.00	0.9812
200.00	0.8187
225.00	0.6976
250.00	0.6050
275.00	0.5312
300.00	0.4719
325.00	0.4233
350.00	0.3827
375.00	0.3484
400.00	0.3191
425.00	0.2939
450.00	0.2717
475.00	0.2524
500.00	0.2353
525.00	0.2202
550.00	0.2067
575.00	0.1946
600.00	0.1836
625.00	0.1737
650.00	0.1646
675.00	0.1563
700.00	0.1487
725.00	0.1417
750.00	0.1353
775.00	0.1294
800.00	0.1239
825.00	0.1188
850.00	0.1141
875.00	0.1097
900.00	0.1055
925.00	0.1017
950.00	0.9806E-01
975.00	0.9465E-01
1000.00	0.9201E-01
1025.00	0.8894E-01
1050.00	0.8605E-01
1075.00	0.8331E-01
1100.00	0.8072E-01
1125.00	0.7827E-01
1150.00	0.7594E-01
1175.00	0.7373E-01
1200.00	0.7163E-01
1225.00	0.6963E-01
1250.00	0.6773E-01
2550.00	0.2549E-01
2575.00	0.2516E-01
2600.00	0.2483E-01
2625.00	0.2450E-01
2650.00	0.2419E-01
2675.00	0.2388E-01
2700.00	0.2358E-01
2725.00	0.2328E-01
2750.00	0.2299E-01
2775.00	0.2271E-01
2800.00	0.2243E-01
2824.99	0.2216E-01
2850.00	0.2189E-01
2875.00	0.2163E-01
2900.00	0.2138E-01
2925.00	0.2113E-01
2950.00	0.2088E-01
2975.00	0.2064E-01
3000.00	0.2041E-01
3025.00	0.2018E-01
3050.00	0.1995E-01
3075.00	0.1973E-01
3100.00	0.1951E-01
3125.00	0.1930E-01
3150.00	0.1909E-01
3175.00	0.1889E-01
3199.99	0.1868E-01
3225.00	0.1849E-01
3250.00	0.1829E-01
3275.00	0.1810E-01
3300.00	0.1791E-01
3325.00	0.1773E-01
3350.00	0.1755E-01
3375.00	0.1737E-01
3400.00	0.1720E-01
3425.00	0.1703E-01
3450.00	0.1686E-01
3475.00	0.1669E-01
3500.00	0.1653E-01
3525.00	0.1637E-01
3550.00	0.1621E-01
3575.00	0.1606E-01
3600.00	0.1590E-01
3625.00	0.1575E-01
3650.00	0.1561E-01
3675.00	0.1546E-01
3700.00	0.1532E-01
3725.00	0.1518E-01
3750.00	0.1504E-01
3775.00	0.1490E-01

1275.00	0.6592E-01	3800.00	0.1477E-01
1300.00	0.6418E-01	3825.00	0.1464E-01
1325.00	0.6253E-01	3850.00	0.1451E-01
1350.00	0.6094E-01	3875.00	0.1438E-01
1375.00	0.5943E-01	3900.00	0.1425E-01
1400.00	0.5798E-01	3925.00	0.1413E-01
1425.00	0.5659E-01	3950.00	0.1401E-01
1450.00	0.5525E-01	3975.00	0.1389E-01
1475.00	0.5397E-01	4000.00	0.1377E-01
1500.00	0.5274E-01	4025.00	0.1365E-01
1525.00	0.5156E-01	4050.00	0.1354E-01
1550.00	0.5043E-01	4075.00	0.1342E-01
1574.99	0.4933E-01	4100.00	0.1331E-01
1600.00	0.4828E-01	4125.00	0.1320E-01
1625.00	0.4726E-01	4149.99	0.1309E-01
1650.00	0.4628E-01	4175.00	0.1298E-01
1675.00	0.4534E-01	4200.00	0.1288E-01
1700.00	0.4443E-01	4225.00	0.1278E-01
1725.00	0.4355E-01	4250.00	0.1267E-01
1750.00	0.4270E-01	4275.00	0.1257E-01
1775.00	0.4188E-01	4300.00	0.1247E-01
1800.00	0.4108E-01	4325.00	0.1237E-01
1824.99	0.4031E-01	4350.00	0.1228E-01
1850.00	0.3957E-01	4375.00	0.1218E-01
1875.00	0.3885E-01	4400.00	0.1209E-01
1900.00	0.3815E-01	4425.00	0.1199E-01
1924.99	0.3747E-01	4450.00	0.1190E-01
1950.00	0.3681E-01	4475.00	0.1181E-01
1975.00	0.3618E-01	4500.00	0.1172E-01
2000.00	0.3556E-01	4525.00	0.1163E-01
2025.00	0.3496E-01	4550.00	0.1154E-01
2050.00	0.3438E-01	4575.00	0.1146E-01
2075.00	0.3381E-01	4600.00	0.1137E-01
2100.00	0.3326E-01	4625.00	0.1129E-01
2125.00	0.3273E-01	4650.00	0.1121E-01
2150.00	0.3221E-01	4675.00	0.1112E-01
2175.00	0.3170E-01	4700.00	0.1104E-01
2200.00	0.3121E-01	4725.00	0.1096E-01
2224.99	0.3073E-01	4750.00	0.1088E-01
2250.00	0.3026E-01	4775.00	0.1081E-01
2275.00	0.2981E-01	4800.00	0.1073E-01
2300.00	0.2936E-01	4825.00	0.1065E-01
2325.00	0.2893E-01	4850.00	0.1058E-01
2350.00	0.2851E-01	4875.00	0.1050E-01
2375.00	0.2810E-01	4899.99	0.1043E-01
2399.99	0.2770E-01	4925.00	0.1036E-01
2425.00	0.2731E-01	4950.00	0.1029E-01
2449.99	0.2693E-01	4975.00	0.1022E-01
2475.00	0.2656E-01	5000.00	0.1015E-01
2500.00	0.2620E-01		

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--------------------------------------------------------------------------------
*********************  AERSCREEN MAXIMUM IMPACT SUMMARY  ********************
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3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

                      MAXIMUM     SCALED     SCALED     SCALED     SCALED
                       1-HOUR     3-HOUR     8-HOUR    24-HOUR     ANNUAL
   CALCULATION          CONC       CONC       CONC       CONC       CONC
    PROCEDURE         (ug/m3)    (ug/m3)    (ug/m3)    (ug/m3)    (ug/m3)
---------------    ---------- ---------- ---------- ---------- ----------
FLAT TERRAIN          5.141      5.141      5.141      5.141       N/A

DISTANCE FROM SOURCE          50.00 meters


IMPACT AT THE
AMBIENT BOUNDARY      3.727      3.727      3.727      3.727       N/A

DISTANCE FROM SOURCE           1.00 meters
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 Concentration      Distance Elevation  Diag  Season/Month   Zo sector       Date
  H0      U*      W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.37267E+01         1.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45676E+01        25.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
*  0.51414E+01        50.00      0.00  15.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31110E+01        75.00      0.00  25.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20861E+01       100.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15458E+01       125.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12090E+01       150.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.98121E+00       175.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.81873E+00       200.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.69761E+00       225.00      0.00   5.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.60502E+00       250.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53118E+00       275.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47191E+00       300.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42332E+00       325.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38268E+00       350.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34844E+00       375.00      0.00   0.0         Winter        0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.31912E+00      400.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.29388E+00      425.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.27173E+00      450.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.25239E+00      475.00     0.00   5.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.23531E+00      500.00     0.00   5.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.22017E+00      525.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.20667E+00      550.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.19456E+00      575.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.18359E+00      600.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17366E+00      625.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16458E+00      650.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15629E+00      675.00     0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.14871E+00      700.00     0.00   5.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.14175E+00      725.00     0.00   5.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.13535E+00      750.00     0.00  10.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.12942E+00      775.00     0.00  10.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.12393E+00      800.00     0.00  10.0       Winter      0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11883E+00         825.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11409E+00         850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10967E+00         875.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10555E+00         900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10168E+00         925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.98055E-01         950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.94654E-01         975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.92009E-01        1000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.88941E-01        1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.86046E-01        1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.83310E-01        1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.80721E-01        1100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.78269E-01        1125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.75943E-01        1150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.73733E-01        1175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.71634E-01        1200.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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  0.69635E-01      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.67731E-01      1250.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.65915E-01      1275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.64183E-01      1300.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.62527E-01      1325.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.60944E-01      1350.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.59429E-01      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.57979E-01      1400.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.56588E-01      1425.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.55254E-01      1450.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.53974E-01      1475.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.52745E-01      1500.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.51563E-01      1525.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.50426E-01      1550.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.49332E-01      1574.99      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.48278E-01      1600.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.47263E-01      1625.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.46284E-01     1650.00     0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.45340E-01     1675.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.44428E-01     1700.00     0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.43548E-01     1725.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.42698E-01     1750.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.41876E-01     1775.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.41081E-01     1800.00     0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.40312E-01     1824.99     0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.39567E-01     1850.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.38846E-01     1875.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.38148E-01     1900.00     0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.37470E-01     1924.99     0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.36814E-01     1950.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.36177E-01     1975.00     0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.35559E-01     2000.00     0.00  35.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.34959E-01     2025.00     0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.34376E-01     2050.00     0.00   0.0        Winter      0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33810E-01       2075.00       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33260E-01       2100.00       0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32725E-01       2125.00       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32205E-01       2150.00       0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31699E-01       2175.00       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31207E-01       2200.00       0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30728E-01       2224.99       0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30261E-01       2250.00       0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29806E-01       2275.00       0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29364E-01       2300.00       0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28932E-01       2325.00       0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28511E-01       2350.00       0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28101E-01       2375.00       0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27701E-01       2399.99       0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27311E-01       2425.00       0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26930E-01       2449.99       0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

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  0.26558E-01      2475.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.26195E-01      2500.00      0.00  15.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25841E-01      2525.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25495E-01      2550.00      0.00  10.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25156E-01      2575.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24826E-01      2600.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24503E-01      2625.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24187E-01      2650.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23878E-01      2675.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23576E-01      2700.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23280E-01      2725.00      0.00  10.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22991E-01      2750.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22708E-01      2775.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22431E-01      2800.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22160E-01      2824.99      0.00  35.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.21894E-01      2850.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.21634E-01      2875.00      0.00   0.0       Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.21379E-01      2900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21129E-01      2925.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20885E-01      2950.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20645E-01      2975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20410E-01      3000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20179E-01      3025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19953E-01      3050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19731E-01      3075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19514E-01      3100.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19300E-01      3125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19091E-01      3150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18886E-01      3175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18684E-01      3199.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18486E-01      3225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18292E-01      3250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18101E-01      3275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17914E-01      3300.00      0.00   0.0        Winter       0-360   10011001
```

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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17730E-01       3325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17549E-01       3350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17371E-01       3375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17197E-01       3400.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.17025E-01       3425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16857E-01       3450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16691E-01       3475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16528E-01       3500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16368E-01       3525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16210E-01       3550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.16055E-01       3575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15903E-01       3600.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15753E-01       3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15606E-01       3650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15461E-01       3675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
   0.15318E-01       3700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35   0.50   10.0
 310.0    2.0
```

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  0.15177E-01      3725.00     0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15039E-01      3750.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14903E-01      3775.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14769E-01      3800.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14637E-01      3825.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14507E-01      3850.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14379E-01      3875.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14253E-01      3900.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14129E-01      3925.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14007E-01      3950.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13887E-01      3975.00     0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13768E-01      4000.00     0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13651E-01      4025.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13536E-01      4050.00     0.00  30.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13423E-01      4075.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13311E-01      4100.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13201E-01      4125.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.13092E-01       4149.99       0.00  20.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12985E-01       4175.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12879E-01       4200.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12775E-01       4225.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12672E-01       4250.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12571E-01       4275.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12471E-01       4300.00       0.00  10.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12373E-01       4325.00       0.00   5.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12276E-01       4350.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12180E-01       4375.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12085E-01       4400.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11992E-01       4425.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11900E-01       4450.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11809E-01       4475.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11719E-01       4500.00       0.00  10.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11631E-01       4525.00       0.00   0.0          Winter        0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11544E-01       4550.00       0.00  35.0          Winter        0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11457E-01       4575.00       0.00   5.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11372E-01       4600.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11288E-01       4625.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11205E-01       4650.00       0.00  25.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11123E-01       4675.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.11043E-01       4700.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10963E-01       4725.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10884E-01       4750.00       0.00   5.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10806E-01       4775.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10729E-01       4800.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10653E-01       4825.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10578E-01       4850.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10504E-01       4875.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10431E-01       4899.99       0.00  35.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10359E-01       4925.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
   0.10287E-01       4950.00       0.00   0.0         Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0     2.0
```

```
  0.10216E-01      4975.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.10147E-01      5000.00     0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

AERSCREEN 16216 / AERMOD 19191 01/16/20 13:45:29

TITLE: De Anza Operation

```
-----------------------------------------------------------------------------
*****************************  AREA PARAMETERS  ****************************
-----------------------------------------------------------------------------

SOURCE EMISSION RATE:          0.116E-02 g/s             0.922E-02 lb/hr

AREA EMISSION RATE:            0.222E-06 g/(s-m2)        0.177E-05 lb/(hr-m2)
AREA HEIGHT:                        3.00 meters                9.84 feet
AREA SOURCE LONG SIDE:             95.00 meters              311.68 feet
AREA SOURCE SHORT SIDE:            55.00 meters              180.45 feet
INITIAL VERTICAL DIMENSION:         1.50 meters                4.92 feet
RURAL OR URBAN:                  URBAN
POPULATION:                      60777

INITIAL PROBE DISTANCE =         5000. meters              16404. feet


-----------------------------------------------------------------------------
**********************  BUILDING DOWNWASH PARAMETERS  **********************
-----------------------------------------------------------------------------

               BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES


-----------------------------------------------------------------------------
*************************  FLOW SECTOR ANALYSIS  **************************
                25 meter receptor spacing: 1. meters - 5000. meters
-----------------------------------------------------------------------------


  MAXIMUM  IMPACT  RECEPTOR

  Zo        SURFACE   1-HR CONC  RADIAL  DIST   TEMPORAL
  SECTOR    ROUGHNESS  (ug/m3)    (deg)   (m)    PERIOD
 ---------------------------------------------------------
     1*       1.000    5.321       15    50.0     WIN
* = worst case diagonal

-----------------------------------------------------------------------------
```

```
*********************  MAKEMET METEOROLOGY PARAMETERS  *******************
---------------------------------------------------------------------------

MIN/MAX TEMPERATURE:     250.0 / 310.0 (K)

MINIMUM WIND SPEED:        0.5 m/s

ANEMOMETER HEIGHT:      10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                  0.35
BOWEN RATIO:             1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


      METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
      -------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

   H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

   HT  REF TA    HT
- - - - - - - - - - -
  10.0  310.0    2.0


---------------------------------------------------------------------------
********************** AERSCREEN AUTOMATED DISTANCES *********************
                 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
---------------------------------------------------------------------------


                  MAXIMUM                          MAXIMUM
          DIST    1-HR CONC                DIST    1-HR CONC
           (m)    (ug/m3)                   (m)    (ug/m3)
         ---------------------           ---------------------
          1.00    3.857                 2525.00    0.2674E-01
```

25.00	4.727	2550.00	0.2638E-01
50.00	5.321	2575.00	0.2603E-01
75.00	3.220	2600.00	0.2569E-01
100.00	2.159	2625.00	0.2536E-01
125.00	1.600	2650.00	0.2503E-01
150.00	1.251	2675.00	0.2471E-01
175.00	1.015	2700.00	0.2440E-01
200.00	0.8473	2725.00	0.2409E-01
225.00	0.7220	2750.00	0.2379E-01
250.00	0.6261	2775.00	0.2350E-01
275.00	0.5497	2800.00	0.2321E-01
300.00	0.4884	2825.00	0.2293E-01
325.00	0.4381	2850.00	0.2266E-01
350.00	0.3960	2875.00	0.2239E-01
375.00	0.3606	2900.00	0.2213E-01
400.00	0.3303	2925.00	0.2187E-01
425.00	0.3041	2950.00	0.2161E-01
450.00	0.2812	2975.00	0.2137E-01
475.00	0.2612	3000.00	0.2112E-01
500.00	0.2435	3025.00	0.2088E-01
525.00	0.2279	3050.00	0.2065E-01
550.00	0.2139	3075.00	0.2042E-01
575.00	0.2013	3100.00	0.2019E-01
600.00	0.1900	3125.00	0.1997E-01
625.00	0.1797	3150.00	0.1976E-01
650.00	0.1703	3175.00	0.1954E-01
675.00	0.1617	3200.00	0.1934E-01
700.00	0.1539	3225.00	0.1913E-01
725.00	0.1467	3250.00	0.1893E-01
750.00	0.1401	3275.00	0.1873E-01
775.00	0.1339	3300.00	0.1854E-01
800.00	0.1283	3325.00	0.1835E-01
825.00	0.1230	3350.00	0.1816E-01
850.00	0.1181	3375.00	0.1798E-01
875.00	0.1135	3400.00	0.1780E-01
900.00	0.1092	3425.00	0.1762E-01
925.00	0.1052	3450.00	0.1744E-01
950.00	0.1015	3475.00	0.1727E-01
975.00	0.9796E-01	3500.00	0.1710E-01
1000.00	0.9522E-01	3525.00	0.1694E-01
1025.00	0.9205E-01	3550.00	0.1678E-01
1050.00	0.8905E-01	3575.00	0.1662E-01
1075.00	0.8622E-01	3600.00	0.1646E-01
1100.00	0.8354E-01	3625.00	0.1630E-01
1125.00	0.8100E-01	3650.00	0.1615E-01
1150.00	0.7859E-01	3675.00	0.1600E-01
1175.00	0.7631E-01	3700.00	0.1585E-01
1200.00	0.7413E-01	3724.99	0.1571E-01
1225.00	0.7207E-01	3750.00	0.1556E-01
1250.00	0.7009E-01	3775.00	0.1542E-01

1275.00	0.6822E-01
1300.00	0.6642E-01
1325.00	0.6471E-01
1350.00	0.6307E-01
1375.00	0.6150E-01
1400.00	0.6000E-01
1425.00	0.5856E-01
1450.00	0.5718E-01
1475.00	0.5586E-01
1500.00	0.5459E-01
1525.00	0.5336E-01
1550.00	0.5219E-01
1574.99	0.5105E-01
1600.00	0.4996E-01
1625.00	0.4891E-01
1650.00	0.4790E-01
1675.00	0.4692E-01
1700.00	0.4598E-01
1725.00	0.4507E-01
1750.00	0.4419E-01
1775.00	0.4334E-01
1800.00	0.4251E-01
1824.99	0.4172E-01
1850.00	0.4095E-01
1875.00	0.4020E-01
1899.99	0.3948E-01
1924.99	0.3878E-01
1950.00	0.3810E-01
1975.00	0.3744E-01
2000.00	0.3680E-01
2025.00	0.3618E-01
2050.00	0.3558E-01
2075.00	0.3499E-01
2100.00	0.3442E-01
2125.00	0.3387E-01
2150.00	0.3333E-01
2175.00	0.3281E-01
2200.00	0.3230E-01
2224.99	0.3180E-01
2250.00	0.3132E-01
2275.00	0.3085E-01
2300.00	0.3039E-01
2325.00	0.2994E-01
2350.00	0.2951E-01
2375.00	0.2908E-01
2399.99	0.2867E-01
2425.00	0.2826E-01
2449.99	0.2787E-01
2475.00	0.2749E-01
2500.00	0.2711E-01

3800.00	0.1528E-01
3825.00	0.1515E-01
3850.00	0.1501E-01
3875.00	0.1488E-01
3900.00	0.1475E-01
3925.00	0.1462E-01
3950.00	0.1450E-01
3975.00	0.1437E-01
4000.00	0.1425E-01
4025.00	0.1413E-01
4050.00	0.1401E-01
4075.00	0.1389E-01
4100.00	0.1378E-01
4125.00	0.1366E-01
4150.00	0.1355E-01
4175.00	0.1344E-01
4200.00	0.1333E-01
4225.00	0.1322E-01
4250.00	0.1311E-01
4275.00	0.1301E-01
4300.00	0.1291E-01
4325.00	0.1280E-01
4350.00	0.1270E-01
4375.00	0.1260E-01
4400.00	0.1251E-01
4425.00	0.1241E-01
4450.00	0.1232E-01
4475.00	0.1222E-01
4500.00	0.1213E-01
4525.00	0.1204E-01
4550.00	0.1195E-01
4575.00	0.1186E-01
4600.00	0.1177E-01
4625.00	0.1168E-01
4650.00	0.1160E-01
4675.00	0.1151E-01
4700.00	0.1143E-01
4725.00	0.1135E-01
4750.00	0.1126E-01
4775.00	0.1118E-01
4800.00	0.1110E-01
4825.00	0.1103E-01
4850.00	0.1095E-01
4875.00	0.1087E-01
4900.00	0.1079E-01
4925.00	0.1072E-01
4950.00	0.1065E-01
4975.00	0.1057E-01
5000.00	0.1050E-01

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---------------------------------------------------------------------------
*********************  AERSCREEN MAXIMUM IMPACT SUMMARY  ********************
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3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	5.321	5.321	5.321	5.321	N/A

DISTANCE FROM SOURCE 50.00 meters

IMPACT AT THE AMBIENT BOUNDARY	3.857	3.857	3.857	3.857	N/A

DISTANCE FROM SOURCE 1.00 meters

```
 Concentration      Distance Elevation  Diag  Season/Month   Zo sector       Date
  H0     U*      W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.38567E+01        1.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47270E+01       25.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
*  0.53208E+01       50.00     0.00  15.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32196E+01       75.00     0.00  25.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21589E+01      100.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15998E+01      125.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12512E+01      150.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10155E+01      175.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.84730E+00      200.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.72196E+00      225.00     0.00   5.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.62614E+00      250.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.54972E+00      275.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.48838E+00      300.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43810E+00      325.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39604E+00      350.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36061E+00      375.00     0.00   0.0        Winter       0-360    10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
```

```
 310.0    2.0
   0.33026E+00       400.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30414E+00       425.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28122E+00       450.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26120E+00       475.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24352E+00       500.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.22785E+00       525.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21389E+00       550.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20135E+00       575.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19000E+00       600.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17972E+00       625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17032E+00       650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16174E+00       675.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15390E+00       700.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14669E+00       725.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14007E+00       750.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13394E+00       775.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.        6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12825E+00       800.00      0.00  10.0        Winter      0-360   10011001
```

```
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12297E+00        825.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11807E+00        850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11350E+00        875.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10923E+00        900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10522E+00        925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10148E+00        950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.97957E-01        975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.95220E-01       1000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.92045E-01       1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.89049E-01       1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.86217E-01       1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.83538E-01       1100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.81000E-01       1125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.78593E-01       1150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.76307E-01       1175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.74134E-01       1200.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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   0.72065E-01     1225.00     0.00   0.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.70095E-01     1250.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.68216E-01     1275.00     0.00   0.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.66422E-01     1300.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.64709E-01     1325.00     0.00  10.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.63071E-01     1350.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.61503E-01     1375.00     0.00   0.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.60002E-01     1400.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.58563E-01     1425.00     0.00  15.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.57183E-01     1450.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.55858E-01     1475.00     0.00  10.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.54585E-01     1500.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.53362E-01     1525.00     0.00  10.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.52186E-01     1550.00     0.00  20.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.51054E-01     1574.99     0.00  25.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.49963E-01     1600.00     0.00   5.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
 310.0    2.0
   0.48912E-01     1625.00     0.00  10.0       Winter     0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.     6.0 1.000   1.50   0.35   0.50  10.0
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 310.0    2.0
   0.47899E-01      1650.00       0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46922E-01      1675.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45979E-01      1700.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45068E-01      1725.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44188E-01      1750.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43337E-01      1775.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42515E-01      1800.00       0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41719E-01      1824.99       0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40948E-01      1850.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40202E-01      1875.00       0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39479E-01      1899.99       0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38778E-01      1924.99       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38098E-01      1950.00       0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37439E-01      1975.00       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36800E-01      2000.00       0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36179E-01      2025.00       0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35576E-01      2050.00       0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34990E-01      2075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34421E-01      2100.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33867E-01      2125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33329E-01      2150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32805E-01      2175.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32296E-01      2200.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31800E-01      2224.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31317E-01      2250.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30847E-01      2275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30388E-01      2300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29942E-01      2325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29507E-01      2350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29082E-01      2375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28668E-01      2399.99      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28264E-01      2425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27870E-01      2449.99      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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  0.27485E-01      2475.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.27110E-01      2500.00      0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.26743E-01      2525.00      0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.26385E-01      2550.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.26034E-01      2575.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25692E-01      2600.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25358E-01      2625.00      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.25031E-01      2650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24711E-01      2675.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24399E-01      2700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.24093E-01      2725.00      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23793E-01      2750.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23500E-01      2775.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.23214E-01      2800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22933E-01      2825.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22658E-01      2850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.22389E-01      2875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.22125E-01      2900.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21867E-01      2925.00      0.00  10.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21613E-01      2950.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21365E-01      2975.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21122E-01      3000.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20883E-01      3025.00      0.00  10.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20649E-01      3050.00      0.00   5.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20420E-01      3075.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20195E-01      3100.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19974E-01      3125.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19757E-01      3150.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19545E-01      3175.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19336E-01      3200.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19131E-01      3225.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18930E-01      3250.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18733E-01      3275.00      0.00   0.0       Winter      0-360   10011001
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18539E-01      3300.00      0.00   0.0       Winter      0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18348E-01      3325.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18161E-01      3350.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17977E-01      3375.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17797E-01      3400.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17619E-01      3425.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17445E-01      3450.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17273E-01      3475.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17105E-01      3500.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16939E-01      3525.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16776E-01      3550.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16616E-01      3575.00      0.00  15.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16458E-01      3600.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16303E-01      3625.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16150E-01      3650.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16000E-01      3675.00      0.00  30.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15852E-01      3700.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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  0.15707E-01      3724.99      0.00  20.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15564E-01      3750.00      0.00  25.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15423E-01      3775.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15284E-01      3800.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15148E-01      3825.00      0.00   5.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.15014E-01      3850.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14881E-01      3875.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14751E-01      3900.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14622E-01      3925.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14496E-01      3950.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14371E-01      3975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14249E-01      4000.00      0.00  10.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14128E-01      4025.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.14009E-01      4050.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13891E-01      4075.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13775E-01      4100.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.13661E-01      4125.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.13549E-01      4150.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13438E-01      4175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13329E-01      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13221E-01      4225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13115E-01      4250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13010E-01      4275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12907E-01      4300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12805E-01      4325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12704E-01      4350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12605E-01      4375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12507E-01      4400.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12410E-01      4425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12315E-01      4450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12221E-01      4475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12128E-01      4500.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12037E-01      4525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11946E-01      4550.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11857E-01       4575.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11769E-01       4600.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11682E-01       4625.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11596E-01       4650.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11512E-01       4675.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11428E-01       4700.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11345E-01       4725.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11264E-01       4750.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11183E-01       4775.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11104E-01       4800.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11025E-01       4825.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10947E-01       4850.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10871E-01       4875.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10795E-01       4900.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10720E-01       4925.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10646E-01       4950.00       0.00    0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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  0.10573E-01      4975.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
  0.10501E-01      5000.00      0.00   0.0        Winter      0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.       6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 – 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education:

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.
M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.
B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience:

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Publications:

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry.* Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution*, 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*. 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing.

Rosenfeld P.E., and Suffet, I.H. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology.*

Rosenfeld, P.E., Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007). The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities. *Water Science And Technology.*

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*. 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld.** (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting*. Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust.* Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants.*. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conference*. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation*. Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest*. Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell*. Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Deposition and/or Trial Testimony:

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September, 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant*.
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants*.
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants*.
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants*.
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants*.
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant*.
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant*.
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

Exhibit C

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

15 January 2020

Michael Lozeau, Esq.
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

Subject: *The De Anza Hotel Project Public Review Draft Initial Study*
Review and Comment on Noise Analysis

Dear Mr. Lozeau,

Per your request, Wilson Ihrig has reviewed *The De Anza Hotel Project Public Review Draft Initial Study* ("DIS", July 2, 2019). In this letter, we offer comments on the noise analysis and proposed mitigation measures.

Comments on Construction Noise Analysis

The pertinent Cupertino Municipal Code for the control of construction noise is § 10.48.053 – *Grading, Construction and Demolition*. The DIS summarizes the quantitative requirements of this code as:

> ". . . construction activities [may] not exceed 80 dBA at the nearest affected property or individual equipment items do not exceed 87 dBA at 25 feet. Only one of these two criteria must be met." [DIS at p 4-59]

Of the two options, the DIS utilizes the first one and presents estimates of construction noise at the two nearest property lines shared with noise-sensitive receptors (an apartment complex and a hotel). However, the DIS treats the 80 dBA limit as a limit for the average noise level (technically denoted "L_{eq}"). There is no indication in § 10.48.053 that that is the intent of the code. Rather, given that people are more likely to complain about short-duration, high noise levels than the long-term average noise level and that most noise ordinances specify maximum allowable noise levels, it is more likely that the 80 dBA limit is intended to be a maximum for noise levels from the construction activities.[1] To that point, § 10.48.053 specifically exempts construction noise from § 10.48.040 which

[1] The "maximum" noise level is typically the highest reading from a sound level meter using the "slow" meter response.

specifies the maximum allowable noise levels from non-construction activities at residential and non-residential properties.

The DIS utilizes the Federal Highway Administration Roadway Construction Noise Model, and data output from the model are provided in Appendix C of the DIS. In particular, these sheets show the maximum (L_{max}) noise levels for the various construction phases at a distance of 200 ft. However, the construction equipment will be closer than this to the Cupertino Hotel property line.[2] Using the attenuation with distance factor used by the DIS and the closest approach point to the Cupertino Hotel property line, the maximum noise levels on the Cupertino Hotel property may be easily calculated.[3] These are shown in Table I. Also shown is the distance the loudest piece of equipment in each phase will need to be from the property to produce a maximum noise level of 80 dBA. For the demolition and grading phases, the distance is nearly half the width of the project site indicating that the 80 dBA limit will be exceeded half of the time during these phases.

TABLE I Maximum Construction Noise Levels

Construction Phase	Lmax	Distance to 80 dBA Lmax
Demolition	93 dBA	150 ft
Site Preparation	88 dBA	89 ft
Grading	93 dBA	150 ft
Building Construction	87 dBA	80 ft
Paving	87 dBA	80 ft

In conclusion on this point, we believe the DIS misinterprets the intent of the construction noise limits provided in § 10.48.053 of the Cupertino Municipal Code. If the limits are interpreted as we believe they should be – as maximum, not average, noise levels – then construction noise levels during the five stages shown in Table I would create a significant noise impact at the Cupertino Hotel.

[2] The DIS uses the center of the project site for the purpose of calculating the average noise level. This is reasonable because the equipment will, in the long-term, move all around the site and will, on average, be in the center. This is not appropriate for determining the maximum sound level, however, because this will clearly occur when the equipment is at its closest approach point. Note that the maximum noise level is determined by the single loudest piece of equipment in each phase, not a summation of the noise levels from all equipment as is appropriate and as was done for the average noise level calculations.

[3] The attenuation rate is 6 dB per doubling of distance [DIS at p 4-59], and the closest distance is 34 feet (across driveway) [DIS at p 3-1].

Comments on Mitigation Measure NOISE-2

Mitigation Measure NOISE-2 pertains to the operational noise from mechanical equipment once the project is put into service.

The DIS notes that the emergency generator will have to be run for routine testing up to 50 hours per year. [DIS at p 4-62] The DIS goes on to provide noise estimates both with and without sound attenuation at the nearest receptors to the west (commercial) and to the east (apartment buildings).[4] In both instances, the DIS concludes that the noise levels at both the commercial buildings and the apartment buildings could exceed the applicable criterion, and states, "Therefore, this impact would be potentially significant." [DIS at p4-63] The DIS then goes on to say, "With implementation of Mitigation Measure NOISE-2, project-related operational noise impacts would be *less than significant*." [DIS at p 4-63; no emphasis added].

A review of Mitigation Measure NOISE-2 indicates that it does not, in fact, provide a substantive analysis that feasible mitigation is possible. Rather, it simply states that, in the future, a qualified acoustician will "determine specific noise reduction measures necessary to reduce noise to comply with the City's noise level requirements." [DIS at p 4-63] In other words, the mitigation measure is simply to assert that the equipment will be selected and designed to meet the adopted threshold of significance rather than provide a substantive description and analysis of what would need to be done to accomplish this.

To add an element of reality to this point, Wilson Ihrig was recently asked to review a situation in which an EIR asserted that an emergency generator would be selected and designed to meet that projects threshold of significance, exactly as is being done here. However, when the project developers set out to meet this requirement, they found that, due to the proximity of the generator to noise-sensitive receptors, the mitigation measures could cost up to $200,000, an amount they were not prepared to spend. As noted previously, the De Anza DIS estimates noise levels from the generator including "a Level II sound enclosure" and still finds that the noise levels exceeded the adopted criteria. [DIS at p 4-63]. If anything, this provides more impetus for additional analysis to demonstrate that feasible mitigation is possible or to determine that the impact is significant.

Comments on Traffic Noise Analysis

The traffic noise analysis utilizes a relative, "audible" threshold of significance, stating, "Only 'audible' changes in noise levels at sensitive receptor locations (i.e., 3 dB or more) are considered potentially significant." [DIS at p 4-58]

The fundamental problem with using a relative threshold of significance, e.g., a change of 3 dBA or greater, is that, over time, there will effectively be no limit. If the noise level today is 65.0 dBA and an increase to 67.9 dBA is found to be a less than significant impact, then the next project will take

[4] As an aside, the emergency generator noise does not seem to have been assessed at the Cupertino Hotel.

67.9 dBA as the baseline, and an increase to 70.8 dBA will be found to be a less than significant impact. The total increase would be 5.8 dBA, which would be deemed a significant impact if brought about by either project individually, but would not be in the two-project scenario because the baseline for the second project will be the noise level resulting from the first project. At each step, the noise level increase would be characterized as "inaudible", although the net increase would be characterized as "audible".

While it is appropriate to use relative impact criteria, in order to keep noise levels from increasing continually without limit over time, absolute criteria should be utilized, as well. For this project, an appropriate source for absolute criteria is the *Cupertino General Plan – Community Vision 2015 – 2040*. Chapter 7, Health and Safety Element, contains Land Use Compatibility for Community Noise Environments, cast in terms of either the Day-Night Equivalent Level (L_{dn}) or the Community Noise Equivalent Level (CNEL), both 24-hour weighted average noise levels. [General Plan, Figure HS-8]. For various types of land uses, Figure HS-8 indicates if a particular noise exposure is "normally acceptable", "conditionally acceptable", "normally unacceptable", or "clearly unacceptable".

A very reasonable, absolute threshold of significance would be if the noise level changed from on classification to another, regardless of the amount of the increase. For example, Residential – Multi-Family land use is normally acceptable up to CNEL 65 and conditionally acceptable up to CNEL 70. If the existing noise environment at, for example, the Aviare apartment complex is CNEL 69, and the project causes it to increase to CNEL 71 – thereby transforming the area from one that is conditionally acceptable for the use to one that is normally unacceptable – that should be determined to be a significant noise impact even though the increase is only 2 dBA and characterized as "inaudible".

Finally on this point, the above analysis would necessarily be based on measurements of the existing noise environment around the project site, something the DIS did not do. As such, even though the DIS states that the traffic noise increase due to the project will be up to 2.0 dBA, it is not possible to ascertain whether or not that increase will cause any of the noise-sensitive receptors to transition from one land use classification to another, lower quality one.

* * * * *

Please contact us if you have any questions about our comments on the De Anza Hotel Project Draft Initial Study noise analysis.

Very truly yours,
WILSON IHRIG

Derek L. Watry
Principal

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WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

DEREK WATRY

Principal

Mr. Watry is experienced in all aspects of environmental noise issues, having conducted extensive field measurements, prepared EIR/EIS sections, helped resolve complex community noise issue, established acceptability criteria, and studied meteorological effects on sound transmission. He is well versed in the requirements of CEQA and NEPA. His experience includes responding to community noise complaints that can be miles from transit noise, construction noise, and low-frequency music noise. He has made numerous presentations at public meetings, conducted technical seminars on outdoor noise propagation, and served as the acoustical expert for several legal actions. These experiences have given him a thorough understanding of the technical, public relations, and political aspects of environmental noise and vibration compliance work.

Education

- M.B.A., Saint Mary's College of California, Moraga, California
- M.S. Mechanical Engineering, University of California at Berkeley
- B.S. Mechanical Engineering, University of California at San Diego

Relevant Project Experience

San Francisco Department of Public Works, Environmental Services On-Call
Several task orders with prime consultant. Recent projects have been the Northshore Main Improvement Project, design noise mitigation for a recently constructed SOMA West Skate Park, and a variety of other construction noise and vibration monitoring tasks.

City of Fremont Environmental Services On Call (Since 2004)
Providing oversight of and acoustical analysis for a variety of task orders. Work tasks primarily focus on noise insulation and vibration control design compliance for new residential projects and peer review other consultant's projects.

King City Silva Ranch Annexation EIR
Conducted the noise portion of the EIR and assessed the suitability of the project areas for the intended development. Work included a reconnaissance of existing noise sources and receptors in and around the project areas, and long-term noise measurements at key locations.

Loch Lomond Marina EIR, San Rafael
Examined traffic noise impacts on existing residences. Provided the project with acoustical analyses and reports to satisfy the requirements of Title 24.

Mare Island Dredge and Material Disposal, Vallejo
EIR/EIS analysis of noise from planned dredged material off-loading operations.

San Francisco Clean Water Program – Richmond Transport Tunnel
Environmental compliance monitoring of vibration during soft tunnel mining and boring, cut-and-cover trenching for sewer lines, hard rock tunnel blasting and site remediation. Work involved long-term monitoring of general construction activity, special investigations of groundborne vibration from pumps and bus generated ground vibration, and interaction with the public (homeowners). Construction methods monitored included tunneling, pile driving, heavy equipment operation, and rock blasting.

San Francisco Department of Public Works, 525 Golden Gate Avenue Demolition
Noise and vibration monitoring and consultation during demolition of a multi-story office building next to Federal, State, and Municipal Court buildings.

San Francisco Department of Public Works, 9-1-1 Emergency Communications Center
Technical assistance on issues relating to the demolition and construction work including vibration monitoring, developing specification and reviewing/recommending appropriate methods and equipment for demolition of Old Emergency Center.

Patterson Ranch EIR, Fremont
Conducted noise and vibration portion of the EIR.

Tyco Electronics Annual Noise Compliance Study, Menlo Park
Conducted annual noise compliance monitoring. Provided letter critiquing the regulatory requirements and recommending improvements.

BART SFO Extension - Construction Vibration and Noise Monitoring
Environmental compliance monitoring of noise and vibration during cut-and-cover construction of BART subway structure. Work included extensive monitoring of ground vibration at buildings and structures in close proximity to vibratory pile driving activity to ascertain compliance with construction specification limits.

Golden Gate Park Concourse Underground Garage, San Francisco
Noise and vibration testing during underground garage construction to monitor for residences and an old sandstone statue during pile driving.

Fourth Street Bridge Rehabilitation, San Francisco
Construction noise, vibration, and underwater monitoring and support. Work included underwater noise measurements during pile driving and subsequent lab analysis, and ground-to-water transfer mobility measurements and subsequent analysis to predict underwater acoustic pressure levels during concrete abutment demolition.

Caltrain Centralized Equipment Maintenance and Operations Facility, San Jose
Noise study of impacts for new maintenance and operations facility built next to existing residential neighborhood.

Relevant Expert Consultant Experience
Expert consultant review of the noise studies for the following projects:

- ***Star Concrete Batch Plant Project***
- ***Mountain Peak Winery Expansion Project***
- ***The Shops at Austin Creek Development***
- ***Monterey Downs and Monterey Horse Park Development***
- ***Atascadero Del Rio Road Commercial Area Development***
- ***WinCo Vallejo Development***
- ***Walmart Tehachapi Development***
- ***Riverwalk Marketplace, Phase II, Development***
- ***Walmart Rohnert Park Expansion***

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Via Email and U.S. Mail

August 1, 2019

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City of Cupertino
City Clerk's Office
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Re: CEQA and Land Use Notice Request for the Project known as De Anza Hotel

Dear Mr. Martire, Mr. Fu and Ms. Schmidt:

I am writing on behalf of the Laborers International Union of North America, Local Union 270 and its members living in the City of Cupertino ("LiUNA"), regarding the project known as De Anza Hotel, including all actions related or referring to the construction of a new seven-story hotel with up to 156 rooms, a rooftop terrace, lounge, and bar and ground-floor conference facilities and restaurant with four levels of below-grade parking located at 10931 North De Anza Boulevard in the City of Cupertino ("Project").

We hereby request that City of Cupertino ("City") send by electronic mail, if possible or U.S. Mail to our firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City and any of its subdivisions, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the City, including, but not limited to the following:

- Notice of any public hearing in connection with the project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.
- Any and all notices prepared pursuant to the California Environmental Quality Act ("CEQA"), including, but not limited to:
    - Notices of any public hearing held pursuant to CEQA.
    - Notices of determination that an Environmental Impact Report ("EIR") or supplemental EIR is required for the project, prepared pursuant to Public Resources Code Section 21080.4.

- Notices of any scoping meeting held pursuant to Public Resources Code Section 21083.9.
- Notices of preparation of an EIR or a negative declaration for the project, prepared pursuant to Public Resources Code Section 21092.
- Notices of availability of an EIR or a negative declaration for the project, prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations.
- Notices of approval and/or determination to carry out the project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of approval or certification of any EIR or negative declaration, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
- Notices of determination that the project is exempt from CEQA, prepared pursuant to Public Resources Code section 21152 or any other provision of law.
- Notice of any Final EIR prepared pursuant to CEQA.
- Notice of determination, prepared pursuant to Public Resources Code Section 21108 or Section 21152.

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. **This request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092**, which requires agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

In addition, we request that the City send to us via email or U.S. Mail a copy of all Planning Commission, Environmental Review Committee and City Council meeting and/or hearing agendas.

Please send notice by electronic mail, if possible or U.S. Mail to:

Michael Lozeau
Hannah Hughes
Komal Toor
Lozeau Drury LLP
1939 Harrison Street, Ste 150
Oakland, CA 94612
510 836-4200
michael@lozeaudrury.com
hannah@lozeaudrury.com
komal@lozeaudrury.com

Please call if you have any questions. Thank you for your attention to this matter.

Sincerely,

Hannah Hughes
Legal Assistant
Lozeau | Drury LLP