MEMORANDUM

DATE December 5, 2019

TO Gian Martire, Senior Planner, City of Cupertino

FROM Terri McCracken, Associate Principal, PlaceWorks

SUBJECT Cupertino De Anza Hotel Project Initial Study and Mitigated Negative Declaration Responses to Comments Memo

INTRODUCTION

The City of Cupertino distributed a Notice of Intent to adopt a Mitigated Negative Declaration for the De Anza Hotel Project on Friday, June 28, 2019. This started a 30-day public comment period for agencies and the public to submit comments on the July 2, 2019 Public Review Draft Initial Study and Mitigated Negative Declaration (IS/MND). The comment period ended on Monday, July 29, 2019. No comments were received during the 30-day public comment period. During the noticing period for the Planning Commission Hearing, one late comment letter was received on December 2, 2019.[1]

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 has prepared the following written responses with the intent of conducting a comprehensive evaluation of the proposed project.

Responses to the late comment letter are provided in Table 1, which is attached to this Responses to Comments Memo. The table is organized by comment letter number, name of commenter, date of comment letter, the comment, and a response to each comment raising environmental issues. The one comment letter received by the City is attached to this Memorandum in its original format.

The comments and responses, and text revisions discussed in this Responses 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. No new, avoidable significant impacts have been identified, and no mitigation measures or project revisions are required to reduce the environmental effects of the proposed project to a less-than-significant level. In addition revisions to the text of the IS/MND merely clarify, amplify, or make insignificant modifictions to the IS/MND. Accordingly, no recirculation of the Public Review Draft IS/MND is required. This Responses to Comments Memo together with the IS/MND constitutes the Final Draft IS/MND for the proposed project.

Attachments:
A: Late Comment Letter Received After the 30-day Public Review Period
B: Revised Air Quality Appendix

[1] During the Planning Commission Hearing noticing period, three other project specific comments were received however they were not focused on environmental concerns and/or the IS/MND.

RESPONSES TO LATE COMMENTS

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

Comment No.	Comment	Response
Michael Goolsby, Better Neighborhoods, Inc.		
1	Better Neighborhoods is an organization established to help people have a voice in local development decisions as prominent as that of planners and developers. Our aim is to encourage smart growth consistent with the needs of the community while protecting the natural environment and places of historic and aesthetic significance, supporting California's need for affordable housing and balancing the desire for growth with the need for features that make cities livable.	Comment noted.
2	The proposed Project, a seven-story, 156-room hotel with rooftop bar and lounge, would require two extraordinary permissions to overcome height and setback restrictions while offering little in return in the way of goods and services to those in the local residential area, as relevant planning goals require. It's actually about a block from another hotel, one with an attractive fountain and a heated swimming pool. Despite its plum location in the De Anza Gateway, the Project falls short of the special gateway standards calling for high-quality architecture and/or unique features, such as arches, fountains, banners, signage, special lighting, landscaping and public art. The Project design is basic, box-like, functional - rather pedestrian, really - with no distinguishing features.	The commenter's opinion is noted.
3	It would require demolishing the Goodyear Auto Center at the site, potentially releasing assorted toxins, including at least one known 200-gallon waste oil Underground Storage Tank (UST) undiscovered during an incomplete geotechnical survey but whose removal is undocumented with authorities.	The commenter asserts the geotechnical survey is incomplete yet provides no evidence to support this assertion. The commenter correctly states that the site could contain a 200-gallon waste oil UST, as discussed in Section VIII, Hazards and Hazardous Materials, on page 4-44 and page 4-47 of the IS/MND. As stated

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		in the IS/MND, due to the relatively small size (approximately 2 feet by 4 feet) of the 200-gallon waste oil UST there is the remote possibility that the geophysical survey could have missed the single UST that Environmental Data Resources (EDR) records show was installed at the project site in 1973 but has no record of its removal. The removal of a UST in the State of California is a routine and regulated procedure. As described in the IS/MND, if the UST is encountered during site grading and excavation activities, it would be required to be removed in accordance with the existing standards and regulations of, and oversight by, the Santa Clara County Fire District, based on compliance authority granted through the California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations. Under these regulations, soil samples from areas where USTs have been removed or where soil contamination is suspected would be required to be analyzed for hydrocarbons including gasoline and diesel in accordance with procedures set forth by the Santa Clara County Fire District. If hydrocarbons are identified in the soil, the appropriate response/remedial measures would be required to be implemented as directed by the Santa Clara County Fire District with support review from the San Francisco Bay Regional Water Quality Control Board until all specified requirements are satisfied and a Tank Closure Letter is issued. Compliance requirements pertaining to the removal/closure of storage tanks are set forth in California Health and Safety Code, Sections 25280 through 25299. It is important to note that although future soil samples could be required if the UST is encountered, soil samples have already been collected and tested, and found to be below the San Francisco Bay Regional Water Quality Control Board Tier 1 Environmental Screening Levels and Soil Gas Environmental Screening Levels.

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4	The Project would also increase traffic and noise in the area, compromise air quality during a prolonged construction period not contemplated by the General Plan EIR, burden water supply and possibly exceed wastewater capacity if proposed experimental wastewater collection planters fail to perform as intended.	Air Quality impacts are discussed in detail in Section II of the IS/MND and were determined to be less than significant with implementation of Mitigation Measures AQ-1 and AQ-2. Noise impacts are discussed in detail in Section XI of the IS/MND and were determined to be less than significant with implementation of Mitigation Measures NOISE-1 and NOISE-2. Transportation impacts are discussed in detail in Section XV of the IS/MND and impacts were determined to be less than significant. Impacts related to water supply and wastewater capacity are discussed in detail in Section XVII, Utilities and Service Systems, of the IS/MND and impacts were determined to be less than significant with implementation of Mitigation Measure UTIL-1.
5	It's not clear what criteria the City would use to determine whether to grant the special permissions needed to support the size of the Project.	This is a comment on the project, not on the adequacy of the environmental review. No further response is required.
6	Several of the measures intended to mitigate environmental impacts appear somewhat impractical if not fanciful.	The commenter's opinion concerning the feasibility of the mitigation measures identified in the IS/MND, which is not supported by evidence, is noted.
7	More investigation and analysis of the risks is needed particularly regarding the UST's, air quality, wastewater, noise and traffic, preferably with relevant examples, before a proper assessment of this Project could obtain.	The commenter's assertion is noted. The IS/MND was prepared in accordance with State CEQA Guidelines using industry standards pertinent to the impact topics analyzed, and analyzes the impact found in Appendix F, Energy Conservation, and Appendix G, Environmental Checklist, of the CEQA Guidelines. The analysis of the IS/MND is based on scientific and factual data, which has been reviewed by the City of Cupertino acting as the Lead Agency and reflects its independent judgment and conclusions. The commenter provides no evidence to support this assertion. Please refer to response to Comment #4.

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8	The Project site, a 1.29-acre parcel at 10931 North De Anza Boulevard, is currently developed with a one-story Goodyear Auto Service Center. The proposal calls for demolishing the existing building before constructing the hotel, which would include four levels of below-grade parking and some modest landscaping. The site is designated under the General Plan as Commercial/Residential, the Zoning District, General Commercial (CG) with special development regulations (rg), referred to as CG-rg. Special permissions have been sought to increase building height and reduce setback. While the hotel is a permitted use and its construction might not exceed the hotel room maximum contemplated by the General Plan EIR, the CG zoning district is intended to provide a means of guiding development to establish retail, office and services "that ensure the maximum compatibility with surrounding residential areas."(emphasis added). Development in this district is also intended to provide goods and services "while minimizing adverse traffic impacts resulting from commercial development."	The comment is noted.
9	How compatible would another hotel so close to its competitor be to surrounding residential areas especially as it would increase traffic in the area?	This is a comment on the project, not on the adequacy of the environmental review. No further response is required.
10	Would the proposed hotel shuttle from the airport even if offered to residents at a discounted rate, as the proposal provides, actually mitigate the anticipated traffic increase and air quality impact? Has such a service ever done so?	The hotel shuttle is not intended to mitigate any impacts identified in the IS/MND. As discussed in Section XV, Transportation, of the IS/MND all transportation impacts were found to be less than significant without mitigation. The impact conclusions and mitigation measures required to mitigate air quality impacts as discussed in Section II, Air Quality, did not assume the use of the hotel shuttle.
11	What criteria would the City use to determine whether to grant the two special permissions needed to support the size of the Project,	This is a comment on the project, not on the adequacy of the environmental review. No further response is required.

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	which would exceed zoning height and setback restrictions? How are such matters decided? It's not clear from the Report.	
12	Demolition and construction would take place over a two-year period - August 2020 to 2022 – and it would adversely impact air quality. How much is very difficult to ascertain from Air Quality and Health Risk Assessments in Appendices A and B, which fail to interpret the data provided in a meaningful way. The only clear statement provided is that cancer risk for the maximum exposed off-site resident just from Project construction activities would be 33.4 in a million, greatly exceeding the 10 in a million significance threshold. This alone, some might argue, should preclude the development altogether. Does the City typically approve projects that pose a health risk of this size? Mitigation Measure AQ-2 provides some assurance that construction equipment would be managed more carefully than it usually is, a concept as surprising as it is troubling. Wouldn't the test for construction impact on cancer and human health presume the equipment is being managed at the same level as the mitigation measure describes? If not, why not? If so, what would be the value of the mitigation measure? More information regarding the calculation and construction equipment management is required.	The commenter provides no evidence to support this assertion. Appendices A and B contain background and regulatory information. In addition the modeling assumptions and outputs have been included in Attachment B of this Memorandum. The analysis and interpretation of the data can be found in Chapter 4, Section II, Air Quality, and Section VII, Greenhouse Gas, of the IS/MND. The cancer risk of 33.4 in a million is the calculated cancer risk for the unmitigated scenario. As stated by the commenter, this risk value would exceed the 10 in a million significance threshold. However, as discussed in Air Quality Impacts criterion (c) in Section II of the IS/MND, with implementation of Mitigation Measure AQ-2, which would require that all equipment of 50 horsepower or more be fitted with Level 3 diesel particular filters, construction-related cancer risk would be reduced to 5.1 in a million (see Table 4-5) and would be below the 10 in a million significance threshold. Therefore, construction-related cancer risk would be reduced to less than significant with mitigation incorporated. If the commenter is asking whether the 33.4 in a million cancer risk value takes into account the requirements of Mitigation Measure AQ-2, it does not. As mentioned in the response above, implementation of Mitigation Measure AQ-2 would reduce construction-related construction risk to 5.1 in a million as the Level 3 diesel particular filters would reduce the amount of

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		exhaust diesel particulate emissions generated from off-road construction equipment that are 50 horsepower or more.
13	The Report asserts that Project operations would not be a major air pollutant emissions source. Examples of projects that do generate substantial TAC emissions are distribution centers with more than 100 trucks per day or 40 trucks with transport refrigeration units (TRUs) per day. (Report, p. 4-16). What about all the trucks delivering food and other hotel supplies to the Project throughout the day and night? According to the Report, such deliveries would be less than CARB's recommended advisory criteria for distribution centers (100 trucks per day). How so? Are the calculations and interpretive analysis available for closer review? The analysis regarding hotspots at page 4-17 of the Report also appears somewhat questionable. Is there an example of a delivery drop-off of a size similar to the Project's? Also, how would congestion management away from the hotel work as a practical matter? More explanation is needed.	It is assumed that the proposed hotel could generate up to approximately 8 truck trips per day, which includes vendor, food, and garbage truck trips, and is based on similar sized hotels. It is unlikely that a hotel would generate 100 more trucks per day (i.e., 200 truck trips), which would, over a 24-hour period, equate to an average of 4 trucks (8 truck trips) per hour coming to the proposed hotel. This number of trucks would be more typical for warehousing operations, which are not part of the proposed project. The model assumptions can be found in the revised Appendix A of the IS/MND, which is included as an Attachment B to this Memorandum. Appendix A has been revised to include additional modeling worksheets that begin on page 45 of the appendix. The commenter does not provide further explanation or evidence as to why commenter believes the CO hotspot analysis is questionable or what is meant by congestion management away from the hotel. The project impacts with respect to CO hotspots were measured based on the size of the proposed project, not on the characteristics of another project. As discussed in the CO hotspot analysis in Section II of the IS/MND, for a CO hotspot to occur, it would typically require 24,000 to 44,000 vehicles per hour at a given intersection. This screening criterion is based on research conducted by the Bay Area Air Quality Management District and presented in its CEQA Air Quality Guidelines (2017). As further discussed, because the project is only projected to generate up to 84 peak hour trips, it would not exceed the screening criterion and would not create a CO hotspot impact.

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14	We know that the Project would generate GHG emissions directly and indirectly that could have a significant impact on the environment. Sifting through the obfuscation, Table 4-6 shows emissions that exceed BAAQMD. Because BAAQMD does not have thresholds of significance for construction-related GHG emissions, BAAQMD advises that the lead agency should quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction-generated GHG emissions. Has the City made such a determination for the Project? There is inevitably confusion regarding the somewhat esoteric calculations regarding this particular metric, but could the City please explain the purpose of amortizing over a 30-year project lifetime the estimated construction emissions? Is this simply a way to describe the impact as less harmful than it would be? How else could emissions during construction ever be found as they are here to be less than significant? How does such a calculation support the purpose of the California Environmental Quality Act (CEQA), which is to provide full and frank disclosure of potential environmental impacts a particular project poses? How would the purchase of carbon offsets change GHG emissions? Does the City track CAP and, if so, what conclusions may be drawn? Do such offsets actually benefit the community? We know that a busy urban hotel would be a huge, new source of GHG emissions but virtuously worded undertakings without oversight are just not meaningful.	Please see the discussion under "Construction Impacts" of Section VII, Greenhouse Gas Emissions, of the IS/MND regarding the potential construction related GHG impacts. As discussed in this section, the quantified project-related construction GHG emissions (amortized over 30 years) are compared to BAAQMD's 1,100 MTCO2e/yr threshold. Construction emissions are amortized over a 30-year period because construction activities would result in a one-time net increase in emissions and represent a small portion of the overall lifetime project GHG emissions. The 30-year amortization period is the approach recommended by the South Coast Air Quality Management District GHG Emissions Working Group and is based on the service life of a building. Source: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf. The application of this standard is a standard practice for environmental review documents prepared by the City of Cupertino. As stated in the IS/MND, BAAQMD does not have a construction-related GHG significance threshold and recommends that a lead agency disclose and evaluate project-related construction GHG emissions impacts. Pursuant to BAAQMD recommendations, project-related construction GHG emissions have been disclosed and evaluated in Section VII of the IS/MND. One (1) GHG offset credit represents one (1) metric ton of GHG emissions. Thus, the number of GHG offset credits purchased indicates the number of tons of GHG emissions that would be

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		offset. There are two types of GHG credits, "ex poste" and "ex ante". Ex poste credits are based on voluntary emissions reductions beyond regulatory requirements already achieved by a facility/entity. Ex ante credits are based on future actions that reduce GHG emissions. These credits are typically verified by a third-party auditor. The overall standards for credits are that they must be additional, real, verifiable, and enforceable. As included in Mitigation Measure GHG-1, GHG credits must be purchased from carbon registries approved by the California Air Resources Board, which ensures that the credits will go towards reducing project-related GHG emissions that exceeds the BAAQMD GHG emissions significance threshold. Mitigation Measure GHG-1 includes a provision that lists the order of preference for where credits should be purchased. The preference gives priority to within the city and then the San Francisco Bay Area Air Basin. As stated in the previous response, Mitigation Measure GHG-1 requires that GHG credits be purchased through a California Air Resources Board-approved carbon registry. This mitigation measure also requires the project applicant to submit to the City the necessary documentation to verify the purchase of the necessary GHG credits.
15	According to the Report at page 4-44, a geophysical survey was performed only "within accessible areas of the site". (emphasis added). What about inaccessible areas? How does the survey comport with requirements under the Department of Toxic Substances Control (DTSC)?	The project site is occupied by an existing building, and a ground penetrating radar (GPR) method cannot be performed where the building is located. Accordingly, the GPR was performed in the "accessible areas," which include the perimeter areas around the building structure. See Response to Comment #3.

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	The Report notes the possibility that the geophysical survey missed the one known UST, which EDR records indicate was installed at the site in 1973 though there is no record of its removal. What is the likelihood of uncovering still more undocumented USTs? Have there been many such surprises in the Project area? Why would removal of a UST be undocumented given the highly regulated requirements for such removal under the California Environmental Reporting System? The obvious concern is that without a better understanding of the whether there are, in fact, no more remaining 200-gallon waste oil UST's underground, any disturbance of the site – including construction of 4 levels of underground parking for the Project -- might set off an environmental disaster of contaminants entering groundwater, ocean and air. The incomplete geophysical survey also revealed very low detectable concentrations of diesel, motor oil, Volatile Organic Compounds (VOCs), and PCB contaminants were reported in the seven soil borings. These soil concentrations were determined to be below the San Francisco Regional Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs). The soil vapor samplings indicated relatively low levels of VOCs also below the San Francisco Bay RWQCB Tier 1 ESLs for soil gas. What would be the risk of disturbing the site during construction considering the site is within about a mile of quite a few schools (sensitive receptors)?	Based on the background research conducted for the Phase I Environmental Site Assessment and Phase II Environmental Site Assessment and as discussed in the IS/MND, the likelihood of uncovering more undocumented UST's is low because the site supported agricultural land uses between 1939 to 1968 and the existing building was constructed in in 1971 and 1972. Nonetheless, as for the potential discovery of the aforementioned 200-gallon UST, any unknown USTs that are discovered would be governed by the same regulatory procedures presented in the IS/MND. Also, please see response to Comment #3. With respect to the commenter's question regarding why the removal of a UST would be undocumented, because there is no information also has no bearing on the environmental analysis. As described in the Section II, Air Quality, of the IS/MND, a Health Risk Assessment, was prepared to assess impacts to sensitive receptors that are most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The nearest sensitive receptors to the project site are the residents of the Aviare Apartments, which is approximately 150 feet to the east of the project across North De Anza Boulevard. As described in the IS/MND and shown on Table 4-5 (page 4-16) impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure AQ-2 at this location. Therefore, impacts to sensitive receptors over a mile away, which

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		is further than the nearest sensitive receptor, would also be mitigated.
16	New requirements by the SWRCB require Applicant to prepare a construction SWPPP that includes post-construction treatment measures aimed at minimizing storm water runoff. The Report asserts that with implementation of special mitigation measures as provided, water quality impacts during construction would be less than significant. In the absence of a Project SWPPP, such a conclusion is at best premature. Are the planters described in the Report widely in use? If so, how effective are they?	While the IS/MND describes that construction Storm Water Pollution Prevention Plan or SWPPP would be required to include post-construction treatment measures as mandated by new State Water Regional Water Quality Control Board standards, no such additional post-construction measures are required for the project. This is because the project would comply with the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 requirements. As described in Section III, Project Description, of the IS/MND (page 3-24), and Section IV, Hydrology and Water Quality, of the IS/MND (page 4-52), the proposed project would include several bio-retention areas and flow-through planters which meet the 1,997 square feet of required treatment area as set forth by the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 requirements. Implementation of these project features, which demonstrate compliance with the C.3 requirements of the Municipal Regional Storm Water National Pollutant Discharge Elimination System Permit would ensure that post-construction impacts to water quality would be less than significant. Therefore, for clarification, the paragraph on page 4-25 of the IS/MND has been revised as follows: Because the project would disturb one or more acres during construction, the project applicant would be required to comply with State's Construction General Permit and submit PRDs to the SWRCB prior to the start of construction. The PRDs include a NOI and a site-specific construction SWPPP that describes the incorporation of best management practices to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. ~~New~~

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		~~requirements by the SWRCB would also require the project applicant to prepare a construction SWPPP that includes post construction treatment measures aimed at minimizing storm water runoff.~~ With implementation of these ~~measures~~ best management practices, water quality impacts during construction would be *less than significant*. This revision does not affect any conclusions or significance determinations provided in the IS/MND.
17	This Project would definitely conflict with land use plans in that it would require two extraordinary permissions for size not contemplated in the General Plan EIR, which makes it an unplanned development. Contrary to area zoning guidelines, the Project would cater not to the needs of actual residents but to visiting strangers. It would also burden the area with additional traffic, air pollution and noise.	This is a comment on the project, not on the adequacy of the environmental review. No further response is required. Please also refer to responses to Comments #4 and #7.
18	As the Report reveals, the Project during operations would likely generate a substantial permanent increase in ambient noise levels in the area in excess of current standards. Mitigation measures include design and selection of less noisy equipment to meet the City noise thresholds. Does such equipment actually exist? Are there any examples? Mitigation could also include dampening techniques, such as walls, but no specifics are given. Or noisy equipment might be located in less noise-sensitive areas, 'where feasible'. What areas might those be? More information, including practical examples, is needed. The stationary noise assessment at page 4-62 cannot be accurate. Everybody knows that an urban hotel is necessarily a busy, noisy place with people coming and going and calling to one another throughout the day and night. How much noise does a rooftop bar typically generate? Are there examples within the City that we might	Construction equipment varies by type, size, and model with some generating more noise than others. Because the precise design details of the project are unknown at this time, as detailed in Mitigation Measure NOISE-2, the project applicant would be required to retain a qualified acoustical consultant to review the design-level plans for mechanical equipment and, as necessary, make recommendations to meet the City's noise standards. The mitigation measure sets performance standards that must be met through final design review of the mechanical equipment. Weatherproof and sound-rated enclosures are widely available for such equipment and the use of parapet walls, which are proposed as part of the project, as well as consideration of the final location of the equipment on the roof are all methods that the acoustical consultant may

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	study for comparison purposes? How many noise complaints does a rooftop bar typically generate? What about rooftop mechanical equipment? There must be ample acoustical statistics and relevant case studies to draw on. We know that operations "would potentially exceed the CMC daytime noise limit of 65 dBA" and "potentially exceed the CMC nighttime noise limit of 50 dBA for residential receptors." Clearly, this is not acceptable.	recommend to effectively comply with the City's exterior noise standards required by Mitigation Measure NOISE-2. No additional information is required. The commenter asserts the noise analysis is not accurate yet provides no evidence to support this assertion. The noise analysis presented in the IS/MND was prepared by a noise expert with over 18 years of professional experience. The IS/MND was prepared in accordance with State CEQA Guidelines using industry standards and analyzes topics pursuant to the CEQA Guidelines Appendix G, Environmental Checklist. The noise analysis of the IS/MND is based on scientific and factual data and prepared by a noise professional with 18 years of experience which has been reviewed by the City of Cupertino acting as the Lead Agency and reflects its independent judgment and conclusions. As discussed in the IS/MND (pages 4-62 and 4-63) the proposed rooftop bar would be located approximately 200 feet across a busy roadway from the nearest residential receptors opposite De Anza Boulevard. The noise produced by a typical conversation between two people at distance of 3 feet is about 60 dBA. At 200 feet, noise would attenuate to approximately 24 dBA, which would not be audible over De Anza Boulevard and other local traffic noise. The proposed six-foot metal rooftop panel, shown in Figure 3-8, would provide additional shielding. Even when accounting for several concurrent conversations between bar patrons, noise would not be substantial. The commenter provides no evidence that operational noise as part of the proposed rooftop bar would result in a significant environmental impact.

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		In addition, the IS/MND includes Mitigation Measure NOISE-1 and NOISE-2 to ensure compliance with the City's standards.
19	In addition to a mediocre, basic, functional architectural design, the Project at seven stories (88 feet) would be a significant new source of light and possibly glare. This is not adequately addressed in the Report. Similarly, how much shadow might such an imposing structure cast on surrounding uses?	The commenter asserts the assessment of impacts related to light and glare are incomplete yet provides no evidence to support this assertion. The City of Cupertino has no standards for shadow studies, which are most commonly prepared to determine if a project would result in substantial effects to outdoor recreation facilities or other public areas. There are no such areas adjacent to the project site.
20	How many calls to fire and police does a hotel of this size typically generate? This, in our view, is a more relevant measure of the burden the Project would create. How many sirens in the night could nearby residents and hotel guests anticipate?	In urban communities such as the City of Cupertino, incidents requiring responses from emergency service vehicles with sirens are expected but are short in duration and unpredictable noise events from a time and location standpoint. The IS/MND did not account for unusual or episodic events, because predicting noise impacts resulting from emergency service vehicles would be speculative.
21	The Project would generate an estimated 1,562 net new daily vehicle trips, with 73 net new trips occurring during the AM (morning) peak hour and 87 net new trips occurring during the PM (evening) peak hour. (Report, page 4-72). CMP analysis may not be required, as the Report indicates, but that is nevertheless a significant traffic increase. What is the estimated percentage traffic increase created by the Project? Truck activities (e.g., deliveries and garbage collection) for the project are not expected to occur within the garage due to height and access limitations. The majority of loading and unloading is expected to occur within the proposed freight loading zone at the northwest corner of the hotel building adjacent to the north elevator, an area 40 feet long by 9 feet wide. The noise generated by truck activities in most cities typically continues throughout the day and night. In some	The commenter provides no evidence to support this assertion. As explained in the IS/MND in Section XV, Transportation, all transportation impacts were found to be less than significant without mitigation. Potential traffic noise increases due to the proposed project are addressed on page 4-63 of the IS/MND and were found to be less than significant. As discussed in the IS/MND, the permanent traffic noise level increase from implementation of the project was estimated to be 0.1 dBA, which is negligible. Loading from truck deliveries would be conducted on the north side of the building away from the nearest residential and hotel receptors. It is anticipated that the proposed hotel could generate up to

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	cities, trucks of a certain size entering and exiting a narrow alley are required to signal with blaring horns much to the consternation of residents. Are there any bylaws in Cupertino to restrict noise at a loading zone?	approximately 8 truck trips per day, which includes vendor, food, and garbage truck trips. The assumptions can be found in the revised Appendix A of the IS/MND, which is included as an Attachment B to this Memorandum. This would be a relatively small number of truck deliveries, and comparable to the existing number of truck deliveries to the auto service center and surrounding commercial uses. The commenter provides no evidence that this small number of truck deliveries would constitute a significant environmental impact, and substantial evidence in the IS/MND indicates that it would not. Nighttime vehicle deliveries by the use of private roads, alleys or between the building and any adjacent residential use are prohibited by the City's Municipal Code and, none of these conditions would be present with implementation of the proposed project.
22	Yes, there are environmental impacts posed by this Project that are individually limited, but cumulatively considerable. As a practical matter, a new hotel about a block from a competitor, one that boasts a swimming pool and an attractive fountain, cannot really be said to support the needs of residents, as zoning guidelines require. While the Project may not exceed the hotel room maximum contemplated by the General Plan EIR, the hotel would be significantly larger than contemplated hence the requirement for two extraordinary permissions, which could induce similar requests and unplanned growth. The Report does not properly describe or address the impact of increased traffic or noise the Project would impose on the area. While the Project site is located in a special gateway area, there is nothing special about the hotel's architecture, which is neither unique nor especially attractive. Nor are there any distinguishing features, such as public art statuary or extraordinary plantings.	This is a comment on the project, not on the adequacy of the environmental review. No further response is required. Please also refer to responses to Comments #1 through #21.

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	The Project would be bigger than contemplated in relevant planning documents which would mean more noise and more traffic. A two-year construction period that might disturb dangerous and still undiscovered toxins not that far from a residential complex as well as and quite a few schools (sensitive receptors) could pose a significant adverse impact on human health. More information particularly more practical analysis of the risks would be needed to properly assess the potential impacts of this Project.	

ATTACHMENT A:
LATE COMMENT LETTER

17901 Von Karman Ave, Suite 600
Irvine, CA 92614
(949) 556-8714
www.better-neighborhoods.com/

December 2, 2019

Mr. Gian Martire
Associate Planner
City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014
Email: GianM@cupertino.org

Re: De Anza Hotel Project - Cupertino

Dear Mr. Martire,

Thank-you for the opportunity to provide questions and comments regarding the above-referenced Project.

Better Neighborhoods is an organization established to help people have a voice in local development decisions as prominent as that of planners and developers. Our aim is to encourage smart growth consistent with the needs of the community while protecting the natural environment and places of historic and aesthetic significance, supporting California's need for affordable housing and balancing the desire for growth with the need for features that make cities livable.

The proposed Project, a seven-story, 156-room hotel with rooftop bar and lounge, would require two extraordinary permissions to overcome height and setback restrictions while offering little in return in the way of goods and services to those in the local residential area, as relevant planning goals require. It's actually about a block from another hotel, one with an attractive fountain and a heated swimming pool. Despite its plum location in the De Anza Gateway, the Project falls short of the special gateway standards calling for high-quality architecture and/or unique features, such as arches, fountains, banners, signage, special lighting, landscaping and public art. The Project design is basic, box-like, functional - rather pedestrian, really - with no distinguishing features.

It would require demolishing the Goodyear Auto Center at the site, potentially releasing assorted toxins, including at least one known 200-gallon waste oil Underground Storage Tank (UST)

undiscovered during an incomplete geotechnical survey but whose removal is undocumented with authorities.

The Project would also increase traffic and noise in the area, compromise air quality during a prolonged construction period not contemplated by the General Plan EIR, burden water supply and possibly exceed wastewater capacity if proposed experimental wastewater collection planters fail to perform as intended.

It's not clear what criteria the City would use to determine whether to grant the special permissions needed to support the size of the Project.

Several of the measures intended to mitigate environmental impacts appear somewhat impractical if not fanciful.

More investigation and analysis of the risks is needed particularly regarding the UST's, air quality, wastewater, noise and traffic, preferably with relevant examples, before a proper assessment of this Project could obtain.

Zoning

The Project site, a 1.29-acre parcel at 10931 North De Anza Boulevard, is currently developed with a one-story Goodyear Auto Service Center. The proposal calls for demolishing the existing building before constructing the hotel, which would include four levels of below-grade parking and some modest landscaping. The site is designated under the General Plan as Commercial/Residential, the Zoning District, General Commercial (CG) with special development regulations (rg), referred to as CG-rg. Special permissions have been sought to increase building height and reduce setback.

While the hotel is a permitted use and its construction might not exceed the hotel room maximum contemplated by the General Plan EIR, the CG zoning district is intended to provide a means of guiding development to establish retail, office and services "that ensure the maximum compatibility **with surrounding residential areas**."(emphasis added). Development in this district is also intended to provide goods and services "while minimizing adverse traffic impacts resulting from commercial development."

How compatible would another hotel so close to its competitor be to surrounding residential areas especially as it would increase traffic in the area? Would the proposed hotel shuttle from the airport even if offered to residents at a discounted rate, as the proposal provides, actually mitigate the anticipated traffic increase and air quality impact? Has such a service ever done so?

What criteria would the City use to determine whether to grant the two special permissions needed to support the size of the Project, which would exceed zoning height and setback restrictions? How are such matters decided? It's not clear from the Report.

Construction

Demolition and construction would take place over a two-year period - August 2020 to 2022 – and it would adversely impact air quality. How much is very difficult to ascertain from Air Quality and Health Risk Assessments in Appendices A and B, which fail to interpret the data provided in a meaningful way. The only clear statement provided is that cancer risk for the maximum exposed off-site resident just from Project construction activities would be 33.4 in a million, greatly exceeding the 10 in a million significance threshold. This alone, some might argue, should preclude the development altogether. Does the City typically approve projects that pose a health risk of this size?

Mitigation Measure AQ-2 provides some assurance that construction equipment would be managed more carefully than it usually is, a concept as surprising as it is troubling. Wouldn't the test for construction impact on cancer and human health presume the equipment is being managed at the same level as the mitigation measure describes? If not, why not? If so, what would be the value of the mitigation measure? More information regarding the calculation and construction equipment management is required.

Project Operations

The Report asserts that Project operations would not be a major air pollutant emissions source. Examples of projects that do generate substantial TAC emissions are distribution centers with more than 100 trucks per day or 40 trucks with transport refrigeration units (TRUs) per day. (Report, p. 4-16). What about all the trucks delivering food and other hotel supplies to the Project throughout the day and night? According to the Report, such deliveries would be less than CARB's recommended advisory criteria for distribution centers (100 trucks per day). How so? Are the calculations and interpretive analysis available for closer review?

The analysis regarding hotspots at page 4-17 of the Report also appears somewhat questionable. Is there an example of a delivery drop-off of a size similar to the Project's? Also, how would congestion management away from the hotel work as a practical matter? More explanation is needed.

Greenhouse Gas Emissions (GHG)

We know that the Project would generate GHG emissions directly and indirectly that could have a significant impact on the environment. Sifting through the obfuscation, Table 4-6 shows emissions that exceed BAAQMD. Because BAAQMD does not have thresholds of significance for construction-related GHG emissions, BAAQMD advises that the lead agency should quantify and disclose GHG emissions that would occur during construction and make a determination on the

significance of these construction-generated GHG emissions. Has the City made such a determination for the Project?

There is inevitably confusion regarding the somewhat esoteric calculations regarding this particular metric, but could the City please explain the purpose of amortizing over a 30-year project lifetime the estimated construction emissions? Is this simply a way to describe the impact as less harmful than it would be? How else could emissions during construction ever be found as they are here to be less than significant? How does such a calculation support the purpose of the California Environmental Quality Act (CEQA), which is to provide full and frank disclosure of potential environmental impacts a particular project poses?

How would the purchase of carbon offsets change GHG emissions? Does the City track CAP and, if so, what conclusions may be drawn? Do such offsets actually benefit the community? We know that a busy urban hotel would be a huge, new source of GHG emissions but virtuously worded undertakings without oversight are just not meaningful.

Hazards and Hazardous Materials

According to the Report at page 4-44, a geophysical survey was performed only "**within accessible areas of the site"**. (emphasis added). What about inaccessible areas? How does the survey comport with requirements under the Department of Toxic Substances Control (DTSC)?

The Report notes the possibility that the geophysical survey missed the one known UST, which EDR records indicate was installed at the site in 1973 though there is no record of its removal. What is the likelihood of uncovering still more undocumented USTs? Have there been many such surprises in the Project area? Why would removal of a UST be undocumented given the highly regulated requirements for such removal under the California Environmental Reporting System?

The obvious concern is that without a better understanding of the whether there are, in fact, no more remaining 200-gallon waste oil UST's underground, any disturbance of the site – including construction of 4 levels of underground parking for the Project -- might set off an environmental disaster of contaminants entering groundwater, ocean and air.

The incomplete geophysical survey also revealed very low detectable concentrations of diesel, motor oil, Volatile Organic Compounds (VOCs), and PCB contaminants were reported in the seven soil borings. These soil concentrations were determined to be below the San Francisco Regional Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs). The soil vapor samplings indicated relatively low levels of VOCs also below the San Francisco Bay RWQCB Tier 1 ESLs for soil gas. What would be the risk of disturbing the site during construction considering the site is within about a mile of quite a few schools (sensitive receptors)?

Hydrology and Water Quality

New requirements by the SWRCB require Applicant to prepare a construction SWPPP that includes post-construction treatment measures aimed at minimizing storm water runoff. The Report asserts that with implementation of special mitigation measures as provided, water quality impacts during construction would be less than significant. In the absence of a Project SWPPP, such a conclusion is at best premature. Are the planters described in the Report widely in use? If so, how effective are they?

Land Use and Planning

This Project would definitely conflict with land use plans in that it would require two extraordinary permissions for size not contemplated in the General Plan EIR, which makes it an unplanned development. Contrary to area zoning guidelines, the Project would cater not to the needs of actual residents but to visiting strangers. It would also burden the area with additional traffic, air pollution and noise.

Noise

As the Report reveals, the Project during operations would likely generate a substantial permanent increase in ambient noise levels in the area in excess of current standards. Mitigation measures include design and selection of less noisy equipment to meet the City noise thresholds. Does such equipment actually exist? Are there any examples? Mitigation could also include dampening techniques, such as walls, but no specifics are given. Or noisy equipment might be located in less noise-sensitive areas, 'where feasible'. What areas might those be? More information, including practical examples, is needed.

The stationary noise assessment at page 4-62 cannot be accurate. Everybody knows that an urban hotel is necessarily a busy, noisy place with people coming and going and calling to one another throughout the day and night. How much noise does a rooftop bar typically generate? Are there examples within the City that we might study for comparison purposes? How many noise complaints does a rooftop bar typically generate? What about rooftop mechanical equipment? There must be ample acoustical statistics and relevant case studies to draw on.

We know that operations "would potentially exceed the CMC daytime noise limit of 65 dBA" and "potentially exceed the CMC nighttime noise limit of 50 dBA for residential receptors." Clearly, this is not acceptable.

Light, Glare and Shadow

In addition to a mediocre, basic, functional architectural design, the Project at seven stories (88 feet) would be a significant new source of light and possibly glare. This is not adequately addressed in

the Report. Similarly, how much shadow might such an imposing structure cast on surrounding uses?

Public Services

How many calls to fire and police does a hotel of this size typically generate? This, in our view, is a more relevant measure of the burden the Project would create. How many sirens in the night could nearby residents and hotel guests anticipate?

Transportation

The Project would generate an estimated 1,562 net new daily vehicle trips, with 73 net new trips occurring during the AM (morning) peak hour and 87 net new trips occurring during the PM (evening) peak hour. (Report, page 4-72). CMP analysis may not be required, as the Report indicates, but that is nevertheless a significant traffic increase. What is the estimated percentage traffic increase created by the Project?

Truck activities (e.g., deliveries and garbage collection) for the project are not expected to occur within the garage due to height and access limitations. The majority of loading and unloading is expected to occur within the proposed freight loading zone at the northwest corner of the hotel building adjacent to the north elevator, an area 40 feet long by 9 feet wide. The noise generated by truck activities in most cities typically continues throughout the day and night. In some cities, trucks of a certain size entering and exiting a narrow alley are required to signal with blaring horns much to the consternation of residents. Are there any bylaws in Cupertino to restrict noise at a loading zone?

Mandatory Findings of Significance

Yes, there are environmental impacts posed by this Project that are individually limited, but cumulatively considerable. As a practical matter, a new hotel about a block from a competitor, one that boasts a swimming pool and an attractive fountain, cannot really be said to support the needs of residents, as zoning guidelines require. While the Project may not exceed the hotel room maximum contemplated by the General Plan EIR, the hotel would be significantly larger than contemplated hence the requirement for two extraordinary permissions, which could induce similar requests and unplanned growth. The Report does not properly describe or address the impact of increased traffic or noise the Project would impose on the area. While the Project site is located in a special gateway area, there is nothing special about the hotel's architecture, which is neither unique nor especially attractive. Nor are there any distinguishing features, such as public art statuary or extraordinary plantings.

The Project would be bigger than contemplated in relevant planning documents which would mean more noise and more traffic. A two-year construction period that might disturb dangerous and still

undiscovered toxins not that far from a residential complex as well as and quite a few schools (sensitive receptors) could pose a significant adverse impact on human health.

More information particularly more practical analysis of the risks would be needed to properly assess the potential impacts of this Project.

Sincerely,

J. Michael Goolsby

J. Michael Goolsby
President and CEO
Better Neighborhoods, Inc.

ATTACHMENT B:
REVISED APPENDIX A

REVISED APPENDIX A:
AIR QUALITY AND GREENHOUSE GAS EMISSIONS DATA

1. Air Quality

Ambient air quality standards (AAQS) have been adopted at State and federal levels for criteria air pollutants. In addition, both the State and federal government regulate the release of toxic air contaminants (TACs). The City of San Francisco is in the San Francisco Bay Area Air Basin (SFBAAB) and is subject to the rules and regulations imposed by the Bay Area Air Quality Management District (BAAQMD), as well as the California AAQS adopted by the California Air Resources Board (CARB) and national AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below. The discussion also identifies the natural factors in the air basin that affect air pollution.

1.1 REGULATORY FRAMEWORK

1.1.1 Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

Criteria air pollutants are the air pollutants for which AAQS have been developed that are regulated under the CAA. The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 1. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: California Air Resources Board, 2017, March, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed January 3, 2019.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter; * Standard has not been established for this pollutant/duration by this entity.

a California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

c On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

d On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

e On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

1.1.2 Air Pollutants of Concern

A substance in the air that can cause harm to humans and the environment is known as an air pollutant. Pollutants can be in the form of solid particles, liquid droplets, or gases. In addition, they may be natural or man-made.

1.1.2.1 CRITERIA AIR POLLUTANTS

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law. Air pollutants are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x),

sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little or no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the air basin. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 miles per hour (mph) for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity[1]. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.[2] The air basin is designated under the California and National AAQS as being in attainment of CO criteria levels.[3]
- **Reactive Organic Gases (ROGs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, BAAQMD has established a significance threshold for this pollutant.
- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major components of NO_x are nitric oxide (NO) and NO_2. The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 is an acute irritant and at equal concentrations more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from

[1] US Environmental Protection Agency. 2017, April 7. Six Common Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

[2] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[3] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.[4,5] The air basin is designated an attainment area for NO_2 under the National AAQS and California AAQS.[6]

- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When SO_2 forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.[7] The air basin is designated an attainment area for SO_2 under the California and National AAQS.[8]
- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004-inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch).

  Some particulate matter, such as pollen, occurs naturally. Most particulate matter in the air basin is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. An EPA scientific review concluded that $PM_{2.5}$ penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM_{10} standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, increased respiratory symptoms (e.g. irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the air basin. Wood burning in fireplaces and stoves is another large source of fine particulates.[9]

- Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individual with asthma); and alterations in lung tissue and structure and in respiratory tract defense

[4] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[5] US Environmental Protection Agency. 2017, April 7. Six Common Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

[6] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

[7] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[8] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

[9] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

mechanisms.[10] Diesel particulate matter (DPM) is classified a carcinogen by CARB. The air basin is designated nonattainment under the California AAQS for PM_{10} and nonattainment under both the California and National AAQS for $PM_{2.5}$.[11,12]

- **Ozone (O_3)** is commonly referred to as "smog" and is a gas that is formed when ROGs and NO_x,—both by-products of internal combustion engine exhaust—undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O_3 levels usually build up during the day and peak in the afternoon. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics.[13] The air basin is designated nonattainment of the 1-hour California AAQS and 8-hour California and National AAQS for O_3.[14]
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

  Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.[15] The air basin is designated in attainment of the California and National AAQS for lead.[16] Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

[10] South Coast Air Quality Management District. 2005. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.

[11] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

[12] On January 9, 2013, the EPA issued a final rule to determine that the SFBAAB has attained the 24-hour $PM_{2.5}$ National AAQS. This action suspends federal State Implementation Plan planning requirements for the Bay Area. The SFBAAB will continue to be designated nonattainment for the National 24-hour $PM_{2.5}$ standard until such time as BAAQMD elects to submit a redesignation request and a maintenance plan to EPA and EPA approves the proposed redesignation.

[13] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[14] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm

[15] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[16] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

1.1.2.2 TOXIC AIR CONTAMINANTS

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 U.S. Code Section 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e. a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that it identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[17] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools

[17] California Air Resources Board , 1999. Final Staff Report: Update to the Toxic Air Contaminant List.

- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

In addition, to reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities.[18] This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic, DPM from trucks, and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

1.1.3 Bay Area Air Quality Management District

BAAQMD is the agency responsible for assuring that the National and California AAQS are attained and maintained in the SFBAAB. BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Air quality management planning.

Air quality conditions in the air basin have improved significantly since the BAAQMD was created in 1955.[19] The BAAQMD prepares air quality management plans (AQMPs) to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans (OAPs) for the National O_3 standard and clean air plans for the California O_3 standard. The BAAQMD prepares these AQMPs in coordination with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The most recent adopted comprehensive plan is the 2017 Clean Air Plan, which was adopted on April 19, 2017, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

[18] California Air Resources Board. 2005, April. Air Quality Handbook: A Community Health Perspective.

[19] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

1.1.3.1 BAAQMD BAY AREA CLEAN AIR PLAN

2017 Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area

BAAQMD adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate (2017 Clean Air Plan) on April 19, 2017. The 2017 Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues in providing the framework for SFBAAB to achieve attainment of the California and National AAQS. Similar to the Bay Area 2010 Clean Air Plan, the 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California CAA. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent by 2020. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following [20]:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Increase efficiency of the energy and transportation systems.
- Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
- Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

[20] Bay Area Air Quality Management District. 2017, April 19. Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. http://www.baaqmd.gov/plans-and-climate/air-quality-plans/plans-under-development.

1.1.3.2 BAAQMD'S COMMUNITY AIR RISK EVALUATION PROGRAM (CARE)

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions, and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk–weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, cancer risk from TACs dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.[21]

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. The highest modeled risks were found east of San Francisco, near West Oakland, and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

1. Western Contra Costa County and the cities of Richmond and San Pablo
2. Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
3. San Jose
4. Eastern side of San Francisco
5. Concord
6. Vallejo
7. Pittsburgh and Antioch

The project site is not within a CARE-program impacted community.

The major contributor to acute and chronic non-cancer health effects in the air basin is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.[22] Currently CARB does not have certified emission factors or an analytical test method for acrolein.

[21] Bay Area Air Quality Management District. 2014. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program (CARE) Retrospective and Path Forward (2004–2013), April.

[22] Bay Area Air Quality Management District. 2006. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area.

Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.[23]

1.1.3.3 REGULATION 7, ODOROUS SUBSTANCES

Sources of objectionable odors may occur within the City. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property." Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

1.1.3.4 OTHER BAAQMD REGULATIONS

In addition to the plans and programs described above, BAAQMD administers a number of specific regulations on various sources of pollutant emissions that would apply to individual development projects allowed under the proposed General Plan, including:

- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

1.1.4 Santa Clara Valley Transportation Authority

The Santa Clara Valley Transportation Authority (VTA) is the congestion management agency for Santa Clara County. VTA is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. VTA's latest congestion management program (CMP) is the 2017 Congestion Management Program Document. VTA's countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, VTA's updated CMP includes multi-modal performance standards and trip reduction and transportation demand management strategies consistent with the goal of reducing regional vehicle miles traveled in accordance with Senate Bill 375. The 2017 CMP also includes a discussion of Senate Bill 743 implementation and relationship to the

[23] Bay Area Air Quality Management District. 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines.

CMP auto level of service standard. Elements discussed in the 2017 CMP for Santa Clara County, include the following:

- Transportation Analysis Standards Element:
  - Monitor and submit report on the level of service on CMP roadway network intersections using CMP software and procedures
  - Monitor performance of CMP rural highways and freeways.
- Multimodal Performance Measures Element:
  - Collect available transportation performance measurement data for use in land use analysis, deficiency plans and the CIP.
- Transportation Model and Database Element:
  - Certify that the CMP model us consistent with the regional model.
  - Certify that member agency models are consistent with the CMP model.
- Land Use Impact Analysis Element:
  - Prepare a Transportation Impact Analysis (TIA) for projects that generate 100 or more peak hour trips and submit to the CMP according to TIA Guidelines schedule.
  - Submit relevant conditions of approval to VTA for projects generating TIAs.
  - Prepare quarterly report on VTA comments and local agency adopted conditions for VTA Board, Congestion Management Program and Planning Committee, Policy Advisory Committee, Technical Advisory Committee, Citizens Advisory Committee, and Bicycle and Pedestrian Advisory Committee.
  - Prepare and submit land use monitoring data to the CMP on all land use projects approved from July 1 to June 30 of the previous year.
- Capital Improvement Program Element:
  - Develop a list of projects intended to maintain or improve the level of service on the designated system and to maintain transit performance standards.
- Monitoring and Conformance Element:
  - Outline the requirements and procedures established for conducting annual traffic LOS and land use monitoring efforts. Support the Traffic Level of Service and Community Form and Impact Analysis Elements.
- Multimodal Improvement Plan Element:
  - Prepare deficiency plans for facilities that violate CMP traffic LOS standards or that are projected to violate LOS standards using the adopted deficiency plan requirements.
  - Submit Deficiency Plan Implementation Status Report as part of annual monitoring.

1.1.5 Bay Area Commuter Benefits Program

Under Air District Regulation 14, Model Source Emissions Reduction Measures, Rule 1, Bay Area Commuter Benefits Program, employers with 50 or more full-time employees within the Air District are required to register and offer commuter benefits to employees. In partnership with the Air District and the MTC, the rule's purpose is to improve air quality, reduce GHG emissions, and decrease the Bay Area's traffic congestion by encouraging employees to use alternative commute modes, such as transit, vanpool, carpool, bicycling, and walking. The benefits program allows employees to choose from one of four commuter benefit options including a pre-tax benefit, employer-provided subsidy, employer-provided transit, and alternative commute benefit.

ENVIRONMENTAL SETTING

1.1.6 San Francisco Bay Area Air Basin

The BAAQMD is the regional air quality agency for the SFBAAB, which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.[24]

1.1.6.1 METEOROLOGY

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits, resulting in a western coast gap, Golden Gate, and an eastern coast gap, Carquinez Strait, which allow air to flow in and out of the SFBAAB and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast.

The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

1.1.6.2 WIND PATTERNS

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate.

[24] This section describing the air basin is from Bay Area Air Quality Management District, 2017, May, Appendix C: Sample Air Quality Setting, in *California Environmental Quality Act Air Quality Guidelines*.

This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3:00 p.m. to 4:00 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

1.1.6.3 TEMPERATURE

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons the temperatures at the coast can be 35 degrees Fahrenheit (ºF) cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10ºF.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

1.1.6.4 PRECIPITATION

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e. air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, when mixing and ventilation are low and pollutant levels build up.

1.1.6.5 WIND CIRCULATION

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

1.1.6.6 INVERSIONS

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, i.e. the vertical depth in the atmosphere available for diluting air contaminants near the ground. There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions are more common in the summer and fall, and radiation inversions are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

1.1.7 Existing Ambient Air Quality

1.1.7.1 ATTAINMENT STATUS OF THE SFBAAB

Areas that meet AAQS are classified attainment areas, and areas that do not meet these standards are classified nonattainment areas. Severity classifications for O_3 range from marginal, moderate, and serious to severe and extreme. The attainment status for the air basin is shown in Table 2. The air basin is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS.

Table 2 Attainment Status of Criteria Pollutants in the San Francisco Bay Area Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment
PM_{10}	Nonattainment	Unclassified/Attainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment[1]
CO	Attainment	Attainment
NO_2	Attainment	Unclassified
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

Source: California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

[1] In December 2014, US EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ National AAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015 (Bay Area Air Quality Management District. 2017, January 5. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status).

1.1.7.2 EXISTING AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements made by the BAAQMD. The BAAQMD monitoring station closest to the project site is the San Jose – Jackson Street Avenue Monitoring Station. Data from this station is summarized in Table 3. The data show occasional violations of the State and federal O_3 standards, as well as state PM_{10} and federal $PM_{2.5}$ standards. The State and federal CO and NO_2 standards have not been exceeded in the last five years in the vicinity of the project site.

Table 3 Ambient Air Quality Monitoring Summary

	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
Pollutant/Standard	**2013**	**2014**	**2015**	**2016**	**2017**
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	0	0	0	0	0
State 8-hour ≥ 0.07 ppm	1	0	2	0	4
Federal 8-Hour > 0.075 ppm	1	0	2	0	3
Maximum 1-Hour Conc. (ppm)	0.093	0.089	0.094	0.087	0.121
Maximum 8-Hour Conc. (ppm)	0.079	0.066	0.065	0.066	0.098
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	58.7	58.4	49.3	51.1	67.5
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m^3	5	1	1	0	6
Federal 24-Hour > 150 µg/m^3	0	0	0	0	0
Maximum 24-Hour Conc. (µg/m^3)	55.8	56.4	58.8	40.0	69.4
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	6	2	2	0	6
Maximum 24-Hour Conc. (µg/m^3)	57.7	60.4	49.4	22.6	49.7

Source: California Air Resources Board, 2015, Air Pollution Data Monitoring Cards (2013, 2014, 2015, and 2016), Accessed January 4, 2019, http://www.arb.ca.gov/adam/index.html. Data from the San Jose Jackson Street Monitoring Station for 0_3, NO_2, PM_{10}, and $PM_{2.5}$.
Notes: ppm: parts per million; ppb: parts per billion; µg/m3: or micrograms per cubic meter

1.1.7.3 EXISTING EMISSIONS

The project site is currently developed with an 8,323 square foot Good Year Auto Service Center building. The current site uses generate criteria air pollutants emissions from energy use, transportation, and area sources associated with the operation of the Auto Service Center.

1.1.8 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory

functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population.

The nearest sensitive receptors are the multi-family residences at the Aviare Apartments to the east of the project site. These residences are approximately 140 feet east of the project site.

1.2 METHODOLOGY

The BAAQMD "CEQA Air Quality Guidelines" were prepared to assist in the evaluation of air quality impacts of projects and plans proposed in the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of the December 17, 2015 Supreme Court decision (*California Building Industry Association v BAAQMD*), which clarified that CEQA does not require an evaluation of impacts of the environment on a project.[25]

1.2.1 Criteria Air Pollutant Emissions

The proposed project qualifies as a project-level project under BAAQMD's criteria. For project-level analyses, BAAQMD has adopted screening criteria and significance criteria that would be applicable to the proposed project. If a project exceeds the screening level, it would be required to conduct a full analysis using BAAQMD's significance criteria.

[25] On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not determine whether the thresholds of significance were valid on their merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning contained in the BAAQMD 2011 CEQA Air Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA Guidelines. (*California Building Industry Association versus BAAQMD, Case No. A135335 and A136212 (Court of Appeal, First District, August 13, 2013*).)

Regional Significance Criteria

BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4. Criteria for both construction and operational phases of the project are shown.

Table 4 BAAQMD Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds

	Construction Phase	Operational Phase	
Pollutant	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Source: Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification.

Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which is 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- Project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g. tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).[26]

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air

[26] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification.

contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[27]

1.2.2 Toxic Air Contaminants

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to the siting of a new source. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project (*California Building Industry Association v. Bay Area Air Quality Management District [2015] 62 Cal.4th 369 [Case No. S213478]*). CEQA does not require an environmental evaluation to analyze the environmental effects of attracting development and people to an area. However, the environmental evaluation must analyze the impacts of environmental hazards on future users when the proposed project exacerbates an existing environmental hazard or condition or if there is an exception to this exemption identified in the Public Resources Code. Schools, residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

For assessing community risk and hazards, sources within a 1,000-foot radius are considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day), and permitted sources.[28,29]

The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the surrounding residential receptors. The BAAQMD has adopted screening tables for air toxics evaluation during construction.[30] Construction-related TAC and $PM_{2.5}$ impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.[31]

The project threshold identified below is applied to the proposed project's construction phase emissions:

[27] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines.

[28] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification.

[29] Bay Area Air Quality Management District. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards.

[30] Bay Area Air Quality Management District. 2010. Screening Tables for Air Toxics Evaluations during Construction.

[31] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification.

Community Risk and Hazards – Project

Project-level construction emissions of TACs or $PM_{2.5}$ from the proposed project to individual sensitive receptors within 1,000 feet of the project site that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- Non-compliance with a qualified Community Risk Reduction Plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e. chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution;
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant, cumulatively considerable contribution.[32]

Community Risk and Hazards – Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone.

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

- Non-compliance with a qualified Community Risk Reduction Plan; or
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.[33]

Current BAAQMD guidance recommends the determination of cancer risks using the Office of Environmental Health Hazard Assessment's (OEHHA) methodology, which was originally adopted in 2003.[34,35] In February 2015, OEHHA adopted new health risk assessment guidance which includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rates.[36] However, BAAQMD has not formally adopted the new OEHHA methodology into their CEQA guidance. To be conservative, the cancer risks associated with project implementation and significance conclusions were determined using the new 2015 OEHHA guidance for risk assessments.

[32] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification.

[33] Ibid.

[34] Bay Area Air Quality Management District. 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards.

[35] Office of Environmental Health Hazard Assessment. 2003. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

[36] Office of Environmental Health Hazard Assessment. 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

2. Greenhouse Gas Emissions

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[37,38,39] The major GHG are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global warming potential (GWP) gases.

    - *Chlorofluorocarbons (CFCs)* are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
    - *Hydrofluorocarbons (HFCs)* contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial,

[37] Intergovernmental Panel on Climate Change, 2001. Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

[38] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of changing radiative forcing rather than a primary cause of change.

[39] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities. However, state and national GHG inventories do not include black carbon yet due to ongoing work related to resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

- ***Perfluorocarbons (PFCs)*** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced, along with HFCs, as alternatives to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.
- ***Sulfur Hexafluoride (SF_6)*** is a colorless gas, soluble in alcohol and ether and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
- ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs. [40,41]

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high global warming potential (GWP) gases. Table 5 lists the GHG and their relative GWP compared to CO_2. The GWP is used to convert GHGs to CO_2-equivalent (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report, GWP values for CH_4 are such that a project generating 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2.

[40] United States Environmental Protection Agency. 2015. Overview of Greenhouse Gases. http://www3.epa.gov/climatechange/ghgemissions/gases.html.

[41] Intergovernmental Panel on Climate Change. 2001. Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

Table 5 GHG Emissions and their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[b] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298

Source: Intergovernmental Panel on Climate Change, 1996, Second Assessment Report: Climate Change 1996, New York: Cambridge University Press; and Intergovernmental Panel on Climate Change, 2007, Fourth Assessment Report: Climate Change 2001, New York: Cambridge University Press.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

[a] Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.

[b] The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

2.1 CALIFORNIA'S GREENHOUSE GAS SOURCES AND RELATIVE CONTRIBUTION

In 2018, the statewide GHG emissions inventory was updated for 2000 to 2016 emissions using the GWPs in IPCC's AR4.[42] Based on these GWPs, California produced 429.4 $MMTCO_2e$ GHG emissions in 2016. California's transportation sector was the single largest generator of GHG emissions, producing 40.5 percent of the state's total emissions. Industrial sector emissions made up 23.4 percent, and electric power generation made up 16.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (12.0 percent), agriculture and forestry (7.9 percent) and other (solvents and chemicals) at 0.2 percent.[43]

California's GHG emissions have followed a declining trend since 2007. In 2016, emissions from routine GHG emitting activities statewide were 429 $MMTCO_2e$, 12 $MMTCO_2e$ lower than 2015 levels or 12 $MMTCO_2e$ lower than 2015 levels. This represents an overall decrease of 13 percent since peak levels in 2004 and 2 $MMTCO_2e$ below the 1990 level and the State's 2020 GHG target. During the 2000 to 2016 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 $MTCO_2e$ per capita to 10.8 $MTCO_2e$ per capita in 2016, a 23 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 38 percent decline since the 2001 peak, while the state's GDP has grown 41 percent during this period.[44]

2.2 HUMAN INFLUENCE ON CLIMATE CHANGE

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the

[42] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

[43] California Air Resources Board, 2018, 2018 Edition California Greenhouse Gas Inventory for 2000-2016: By Category as Defined in the 2008 Scoping Plan, https://www.arb.ca.gov/cc/inventory/data/data.htm, accessed November 20, 2018.

[44] California Air Resources Board, 2018, California Greenhouse Emissions for 2000 to 2016 – Trends of Emissions and Other Indicators, https://www.arb.ca.gov/cc/inventory/data/data.htm, accessed November 20, 2018.

climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO_2 in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation.[45] These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.[46] In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime.[47]

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

2.3 POTENTIAL CLIMATE CHANGE IMPACTS FOR CALIFORNIA

Observed changes over the last several decades across the western United States reveal clear signs of climate change. Statewide average temperatures increased by about 1.7 degrees Fahrenheit (°F) from 1895 to 2011, and warming has been greatest in the Sierra Nevada. The years from 2014 through 2016 have shown unprecedented temperatures with 2014 being the warmest. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels.

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) advanced shift in

[45] Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007*, New York: Cambridge University Press.

[46] California Climate Action Team, 2006, Climate Action Team Report to Governor Schwarzenegger and the Legislature.

[47] Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007*, New York: Cambridge University Press.

the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms. Overall, California has become drier over time with 5 of the 5 years of severe to extreme drought occurring between 2007 and 2016, with unprecedented dry years occurring in 2015 and 2015. Statewide precipitation has become increasingly variable from year to year with the driest consecutive 4 years occurring from 2012 to 2015. According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 4.6-1), and the inertia of the Earth's climate system could produce as much as 0.6 degrees Celsius (°C) (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 4.6-2 and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

Specific climate change impacts that could affect the project include:

- ***Water Resources Impacts.*** By late-century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the State can be expected to be drier from the warming effects alone as the spring snowpack will melt sooner, and the moisture contained in soils will evaporate during long dry summer months.[48]

- ***Wildfire Risks***. Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide are estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.[49]

- ***Health Impacts.*** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the State. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.[50]

[48] California Climate Change Center. 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. July.

[49] California Council on Science and Technology, 2012, California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets. https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2018.

[50] California Council on Science and Technology,2012, California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets, https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2018.

Table 6 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: California Climate Change Center, 2012, Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California; California Energy Commission, 2006, Our Changing Climate: Assessing the Risks to California, 2006 Biennial Report, CEC-500-2006-077; California Energy Commission, 2009, The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California. CEC-500-2008-0077; California Natural Resources Agency, 2014, Safeguarding California: Reducing Climate Risk, An Update to the 2009 California Climate Adaptation Strategy.

- *Increase Energy Demand.* Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the State will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process from higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.[51]

[51] California Council on Science and Technology,2012, California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets, https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed November 21, 2018.

2.1 REGULATORY FRAMEWORK

2.1.1 Federal Regulations

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[52]

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the proposed project because they constitute the majority of GHG emissions from the onsite land uses, and per BAAQMD guidance are the GHG emissions that should be evaluated as part of a GHG emissions inventory.

2.1.1.1 US MANDATORY REPORTING RULE FOR GREENHOUSE GASES (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

2.1.1.2 UPDATE TO CORPORATE AVERAGE FUEL ECONOMY STANDARDS (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be considered to be in compliance with State requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025. However, the EPA is reexamining the 2017–2025 emissions standards.

2.1.1.3 EPA REGULATION OF STATIONARY SOURCES UNDER THE CLEAN AIR ACT (ONGOING)

Pursuant to its authority under the Clean Air Act (CAA), the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to President Obama's 2013 Climate Action Plan, the EPA was directed to also develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under President Trump's Energy Independence Executive Order.

[52] United States Environmental Protection Agency. 2009. EPA: Greenhouse Gases Threaten Public Health and the Environment, Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity, December, http://yosemite.epa.gov/opa/admpress.nsf/0/08D11A451131BCA585257685005BF252.

2.1.2 State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and Senate Bill 375.

2.1.2.1 EXECUTIVE ORDER S-03-05

Executive Order S-03-05, signed June 1, 2005. Executive Order S-03-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

2.1.2.2 ASSEMBLY BILL 32, THE GLOBAL WARMING SOLUTIONS ACT

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05. Under AB 32, California Air Resources Board (CARB) prepared the 2008 Climate Change Scoping Plan, the 2014 Climate Change Scoping Plan, and the 2017 Climate Change Scoping Plan, which are discussed below.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. The *2008 Scoping Plan* identified that GHG emissions in California are anticipated to be 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

First Update to the Scoping Plan

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted at the May 22, 2014, board hearing, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$.[53]

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a

[53] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm, accessed November 20, 2018.

recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.[54] CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[55]

2.1.2.3 EXECUTIVE ORDER B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

2.1.2.4 SENATE BILL 32 AND ASSEMBLY BILL 197

In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 14, 2017, CARB adopted the *2017 Climate Change Scoping Plan Update*. The *2017 Climate Change Scoping Plan Update* includes the regulations and programs to achieve the 2030 target, including strategies consistent with AB 197 requirements. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[56]

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated

[54] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm, accessed November 20, 2018.

[55] California Air Resources Board, 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm, accessed November 20, 2018.

[56] California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency and utilizes NZE technology and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydroflurocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and the state's sustainable development objectives, and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions in the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.

The Scoping Plan scenario is set against what is called the business-as-usual yardstick—that is, what GHG emissions would look like if the state did nothing beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 7, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. As shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table 7 2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target with Known Commitments	**60**

Source: California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

Table 8, *2017 Scoping Plan Emissions Changes by Sector to Achieve the 2030 Target*, provides estimated GHG emissions by sector compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 8 2017 Scoping Plan Emissions Changes by Sector to Achieve the 2030 Target

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[a]	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	431	260	-40%

Source: California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.

[a] Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

2.1.2.5 SENATE BILL 375 – SUSTAINABLE COMMUNITIES STRATEGY

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2005 to connect the Scoping Plan's GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 regions in California managed by a metropolitan planning organization (MPO). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. MTC's targets are a 7 percent per capita reduction in GHG emissions from 2005 by 2020, and 15 percent per capita reduction from 2005 levels by 2035.[57]

2017 Update to the SB 375 Targets

SB 375 requires CARB to periodically update the targets, no later than every 8 years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018. The updated targets consider the need to further reduce VMT, as identified in the draft 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per capita GHG emission reductions from SB 375 than are currently in place, which for 2035, translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs. As proposed, CARB staff's proposed targets would result in an additional reduction of over 10 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the MTC/ABAG region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent).[58] The updated targets and methodology will take effect on January 1, 2018, and SCS adopted in 2018 and later would be subject to these new targets.

Plan Bay Area, Strategy for a Sustainable Region

Plan Bay Area 2040 is the Bay Area's RTP/SCS and was adopted jointly by ABAG and MTC on July 26, 2017. It lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area 2040 is a limited and focused update to the 2013 Plan Bay Area, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years.

[57] California Air Resources Board. 2010. Staff Report, Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375, August.

[58] California Air Resources Board. 2018, February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.

As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas in existing communities. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated in PDAs. Per the Final Plan Bay Area 2040, while the projected number of new housing units and new jobs within PDAs would increase to 629,000 units and 707,000 jobs compared to the adopted Plan Bay Area 2013, its overall share would be reduced to 77 percent and 55 percent.[59] However, Plan Bay Area 2040 remains on track to meet a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[60] The proposed project site is not within a PPA.[61]

2.1.2.6 OTHER APPLICABLE MEASURES

Transportation

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles.[62] In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[63]

Executive Order S-1-07

On January 18, 2007, the State set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold in California. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use

[59] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017, March. Plan Bay Area 2040 Plan.

[60] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017, March. Plan Bay Area 2040 Plan.

[61] Associated Bay Area Governments (ABAG). July 2015. Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/.

[62] See also the discussion on the update to the CAFE standards under federal laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

[63] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle," using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the State identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g. electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's State vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

Renewables Portfolio Standard

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon), was signed into law September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Executive Order B-55-18 and SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25 percent of retail sales are required to be from renewable sources by December 31, 2016, 33 percent by December 31, 2020, 40 percent by December 31, 2024, 45 percent by December 31, 2027, and 50 percent by December 31, 2030. SB 100 raises California's RPS requirement to 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.

In addition to targets under AB 32 and SB32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency, CalEPA, the Department of Food and Agriculture, and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Energy Efficiency

California Building Standards Code – Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2013 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

Most recently, the CEC adopted the 2016 Building Energy Efficiency Standards. The 2016 Standards will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards went into effect on January 1, 2017. Under the 2016 Standards, residential buildings are 28 percent more energy efficient than the 2013 Standards while non-residential buildings are 5 percent more energy efficient than the 2013 Standards.[64]

The 2016 standards will not get us to zero net energy (ZNE). However, they do get us very close to the State's goal and make important steps toward changing residential building practices in California.[65]

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements.[66] Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient. When accounting for the

[64] California Energy Commission (CEC). 2015, June 10. 2016 Building Energy Efficiency Standards, Adoption Hearing Presentation. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents.

[65] California Energy Commission (CEC). 2015. 2016 Building Energy Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

[66] California Energy Commission (CEC). 2018. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. http://www.energy.ca.gov/releases/2018_releases/2018-05-09_building_standards_adopted_nr.html.

electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[67]

California Green Building Standards Code – CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[68] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, was last updated in 2016. The CEC adopted the 2019 CALGreen on May 9, 2018. The 2019 CALGreen standards become effective January 1, 2020.

2006 Appliance Energy Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste

AB 939

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity. AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own. Section 5.408 of the 2016 California Green Building Standards Code (Title 24,

[67] California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.

[68] The green building standards became mandatory in the 2010 edition of the code.

California Code of Regulations, Part 11) also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1826

AB 1826, signed on October of 2014, requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

AB 1881

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the Energy Commission, in consultation with the department, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Strategy

Senate Bill 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter (PM) produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. The bill also establishes targets for reducing organic waste in landfill. In April 2016, CARB adopted the *Proposed Short-Lived Climate Pollutant Strategy*, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants.

Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use.[69] In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

2.1.3 Local Regulations

2.1.3.1 CITY OF CUPERTINO CLIMATE ACTION PLAN

The City of Cupertino published the public draft Climate Action Plan (CAP) in December, 2014 to achieve the GHG reduction target of AB 32 for target year 2020. The CAP serves to support California's statewide climate change efforts through identification of actions that can be taken locally, by residents, businesses, and the City itself, to ensure the State's ambitious reduction goals can be achieved. The strategies outlined in the CAP seek to not only reduce GHG emissions, but also provide energy, water, fuel, and cost savings for the City.[70] The goals established by the City's CAP are the following:

- Goal 1 – Reduce Energy Use: Increase energy efficiency in existing homes and buildings and increase use of renewable energy community-wide.
- Goal 2 – Encourage Alternative Transportation: Support transit, carpooling, walking, and bicycling as viable transportation modes to decrease the number of single-occupancy vehicle trips within the community.
- Goal 3 – Conserve Water: Promote the efficient use and conservation of water in buildings and landscapes.
- Goal 4 – Reduce Solid Waste: Strengthen waste reduction efforts through recycling and organics collection and reduced consumption of materials that otherwise end up in landfills.
- Goal 5 – Expand Green Infrastructure: Enhance the City's existing urban forest on public and private lands.

2.2 ENVIRONMENTAL SETTING

2.2.1 Existing Emissions

The project site is currently developed with an 8,323 square foot Good Year Auto Service Center building. The current site uses generate criteria air pollutants emissions from energy use, transportation, and area sources associated with the operation of the Auto Service Center.

[69] California Air Resources Board. 2017, March. Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf.

[70] City of Cupertino, 2015. Climate Action Plan. January, 2015. http://www.cupertino.org/home/showdocument?id=13531

2.3 METHODOLOGY

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential GHG emissions impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background information.

2.3.1 Greenhouse Gas Emissions

BAAQMD has a tiered approach for assessing GHG emissions impacts of a project. If a project is within the jurisdiction of an agency that has a "qualified" GHG reduction strategy, the project can assess consistency of its GHG emissions impacts with the reduction strategy.

BAAQMD has adopted screening criteria and significance criteria for development projects that would be applicable for the proposed project. If a project exceeds the Guidelines' GHG screening-level sizes, the project would be required to conduct a full GHG analysis using the following BAAQMD significance criteria:

- 1,100 MT of CO_2e per year; or
- 4.6 MT of CO_2e per service population (SP) for year 2020

AB 32 requires the statewide GHG emission be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.[71] Hence, BAAQMD's per capita significance threshold is calculated based on the State's land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53 $MMTCO_2e$and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 $MTCO_2e$/SP for year 2020.[72]

Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions, because biogenic CO_2 is derived from living biomass (e.g. organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels. Although GHG emissions from waste generation are included in the GHG inventory for the proposed project, the efficiency threshold of 4.6 $MTCO_2e$ per service population for 2020 identified above does not include the waste sector, and it is therefore not considered in the evaluation.

[71] California Air Resources Board, 2008. *Climate Change Scoping Plan: A Framework for Change.*
[72] Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines.

BAAQMD does not have thresholds of significance for construction-related GHG emissions, but requires quantification and disclosure of construction-related GHG emissions.[73] For operational phases, if projects exceed the bright line and per capita efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

[73] Ibid.

CalEEMod Inputs (Construction Run)

Name:	De Anza Hotel
Project Location:	10931 North De Anza Boulevard, Cupertino
County/Air Basin:	Santa Clara County
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2022
Utility Company:	Pacific Gas and Electric

Total Site Acreage:	1.29	Total Square Feet	56,192.40	Rooms	156
Disturbed Site Acreage:	1.02				
				Restaurant Employees	26
				Hotel Employees	78
				Total	**104**

Existing Components	Existing SQFT	Acreage	
Goodyear Auto Service Center	8,323	0.19	
Asphalt	17,700	0.41	27281.00
		0.60	

New Components	Added SQFT	Building Footprint	Acreage
Hotel	115,846	28,702	0.27
Conference/Meeting	6,410		0.15
Restaurant	10,358		0.24
Enclosed Parking Structure	95,923		0.01
Surface Parking	860		0.02
Hardscape	12,860		0.30
Landscaping	1,680		0.04
			1.02

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Hotel + Conference/Meeting	Recreational	Hotel	156.00	Room	0.42	122,256
Restaurant	Recreational	Sit-Down Restaurant	10.36	1000 sqft	0.24	10,358
Enclosed Parking Structure	Parking	Enclosed Parking w/Elevator	95.92	1000 sqft	0.01	95,923
Surface Parking	Parking	Parking Lot	0.86	1000 sqft	0.02	860
Hardscape	Parking	Other Non-Asphalt Surfaces	12.86	1000 sqft	0.30	0
					0.98	**229,397**

Demolition Haul

Component	Amount to be Demolished (SQFT)	Amount to be Demolished (Tons)	Haul Truck Capacity (tons)*	Haul Distance (miles)*	Total Trip Ends	Duration (days)	Trips Ends/Day*
Asphalt	17,700	262	16	20	32		
Buildings	8,323	382.858	16	20	47		
		645			**79**	**10**	**7.90**

Soil Haul

	sqft	Elevation*	Cubic feet	Cubic Yards
Enclosed Parking Structure	23,981	80	1,918,460	71,054

	Total Volume (CY)	Haul Truck Capacity (CY)**	Haul Distance (miles)**	Total Trip Ends	Total Days	Trip Ends/Day
Export	71,054	16	20	**8,882**	30	296

*Estimated using project site plans.

**CalEEMod Default.

Architectural Coating

BAAQMD Regulation 8 Rule 3

Interior Paint VOC content:	100
Exterior Paint VOC content:	150

Non-Residential Architectural Coating

Percentage of Buildings' Interior Painted:	100%
Percentage of Buildings' Exterior Painted:	100%

Structures	Land Use Square Feet	CalEEMod Paintable Surface Area Multiplier	Total Paintable Surface Area[2]	Paintable Interior Area[1]	Paintable Exterior Area[1]
Hotel + Conference/Meeting	122,256	2	244,512	183,384	61,128
Restaurant	10,358	2	20,716	15,537	5,179
		Non-Residential Totals	**265,228**	**198,921**	**66,307**
Enclosed Parking	95,923	0.06	5,755		5,755
Parking Lot	860	0.06	52		52
		Striping Totals	**5,807**	**0**	**5,807**

Notes:

[1] *CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

[2] ** Applied CalEEMod Methodology in calculating total

Construction - Unmitigated Run

BAAQMD BMPs

Replace Ground Cover	PM10:	5	% Reduction
	PM25:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
Clean Paved Road		9	% PM Reduction

CalEEMod Construction Phase Inputs*

5-Day Work Week/8 hours per day

Phase 1	Phase Type	Start Date	End Date	CalEEMod Total Days	Total Days
Demolition	Demolition	8/3/2020	8/14/2020	10	11
Site Preparation	Site Preparation	8/17/2020	8/21/2020	5	4
Grading	Grading	8/24/2020	10/2/2020	30	39
Grading Soil Haul	Grading	*8/24/2020*	*10/2/2020*	*30*	*39*
Building Construction	Building Construction	10/5/2020	2/4/2022	350	487
Asphalt Paving	Asphalt Paving	2/7/2022	2/18/2022	10	11
Architectural Coating	Architectural Coating	2/21/2022	3/18/2022	20	25

Year	Start Date	End Date	Days
2020	8/3/2020	12/31/2020	109
2021	1/1/2021	12/31/2021	261
2022	1/1/2022	3/18/2022	55
		Total	**425**

*Based on construction schedule provided by the Applicant.

CalEEMod Construction Off-Road Equipment Inputs*

Phase

Equipment Type		Unit Amount	Hours /Day	HP	LF	Vendor Trips
Demolition						
Concrete/Industrial Saws	Concrete/Industrial Saws	1	8	81	0.73	
Rubber Tired Dozers	Rubber Tired Dozers	1	1	247	0.4	
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	2	6	97	0.37	
Water Truck**						4
Worker Trips		10				
Site Preparation						
Graders	Graders	1	8	187	0.41	
Tractor/Loader/Backhoes	Tractors/Loaders/Backhoes	1	8	97	0.37	
Water Truck**						4
Worker Trips		5				
Grading						
Concrete/Industrial Saw	Concrete/Industrial Saws	1	8	81	0.73	
Rubber Tired Dozers	Excavators	1	1	247	0.4	
Tractor/Loader/Backhoe	Tractor/Loader/Backhoe	2	6	97	0.37	
Water Truck**						4
Worker Trips		10				
Grading Soil Haul						
Concrete/Industrial Saw	Concrete/Industrial Saws	0	8	81	0.73	
Rubber Tired Dozers	Excavators	0	1	247	0.4	
Tractor/Loader/Backhoe	Tractor/Loader/Backhoe	0	6	97	0.37	
Water Truck						
Worker Trips		0				
Building Construction						
Cranes	Cranes	1	4	231	0.29	
Forklifts	Forklifts	2	6	89	0.2	
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	2	8	97	0.37	
Vendor Trips						38
Worker Trips		96				
Paving						
Cement and Mortar Mixers	Cement and Mortar Mixers	4	6	9	0.56	
Pavers	Pavers	1	7	130	0.42	
Rollers	Rollers	1	7	80	0.38	
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	1	7	97	0.37	
Vendor Trips						
Worker Trips		18				
Painting						
Air Compressors	Air Compressors	1	6	78	0.48	
Worker Trips		19				

*CalEEMod defaults.

**Assume 4 vendor trips for water trucks.

Demo Haul Trip Calculation

*Conversion factors**

0.046	ton/SF
1.2641662	tons/cy
20	tons
15.820705	CY
0.7910352	CY/ton

Building Demoltion Haul Trips (BSF and Haul Truck (CY) given)

BSF Demo	Tons/SF	Tons	Haul Truck (CY)	Haul Truck (Ton)	Round Trips	Total Trip Ends
8,323	0.046	382.858	16	20.23	19	38

[1] Based on BSF provided in Traffic Impact Analysis provided by Hexagon Transportation Consultants.

*CalEEMod User's Guide Version 2011.1, Appendix A

Pavement Volume to Weight Conversion

Component	Total SF of Area[1]	Assumed Thickness (foot)[2]	Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf)[3]	AC Mass (lbs)	AC Mass (tons)
Asphalt	17,700	0.333	5,900	89	524,444	262.22

[1] Based on aerial image of existing project site.

[2] Pavements and Surface Materials. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Conneticut Cooperative Extension System, 1999.

[3] https://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations

CalEEMod Inputs (Operation Run)

Name:	De Anza Hotel
Project Location:	10931 North De Anza Boulevard, Cupertino
County/Air Basin:	Santa Clara County
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2022
Utility Company:	Pacific Gas and Electric

Total Site Acreage:	1.29	Total Square Feet	56,192.40	Rooms	156
Disturbed Site Acreage:	1.02				
				Restaurant Employees	26
				Hotel Employees	78
				Total	**104**

Existing Components	Existing SQFT	Acreage
Goodyear Auto Service Center	8,323	0.19
Asphalt	17,700	0.41
		0.60

New Components	Added SQFT	Building Footprint	Acreage
Hotel	115,846	28,702	0.27
Conference/Meeting	6,410		0.15
Restaurant	10,358		0.24
Enclosed Parking Structure	95,923		0.01
Surface Parking	860		0.02
Hardscape	12,860		0.30
Landscaping	1,680		0.04
			1.02

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Hotel + Conference/Meeting	Recreational	Hotel	156.00	Room	0.42	122,256
Restaurant	Recreational	Sit-Down Restaurant	10.36	1000 sqft	0.24	10,358
Enclosed Parking Structure	Parking	Enclosed Parking w/Elevator	95.92	1000 sqft	0.01	95,923
Surface Parking	Parking	Parking Lot	0.86	1000 sqft	0.02	860
Hardscape	Parking	Non-Asphalt Hardscape	12.86	1000 sqft	0.30	12,860
					0.98	**242,257**

Carbon Intensity of Electricity for Proposed Project

CO_2**	CH_4**	N_2O**	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh
10.84	0.000033	0.000004	10.85

**Global Warming Potentials from the Climate Change 2007, IPCC Fourth Assessment Report (AR4).*

***Silicon Valley Clean Energy Power Mix from California Department of Energy. Utility Annual Power Content Labels for 2017. 2017 Silicon Valley Clean Energy Power Content Label. http://www.energy.ca.gov/pcl/labels/*

Trip Generations

	Proposed Project	
Average Daily Trips*	1,660	ADT
Adjusted Trip Rate	10.64	trips/unit

1,562

**Based on the Traffic Impact Analysis provided by Hexagon Transportation Consultants. Includes 13% trip reduction based on Standard Auto Trip reduction Rates published in VTA's Transportation Impact Analysis Guidelines, 2014.*

Fleet Mix[1]

Passenger Vehicles:	Includes employees, hotel guests, and shuttle buses (e.g., vans)			99.52%
Trucks:	Includes garbage trucks, recycling trucks, and vendor deliveries (maintenance trucks, food deliveries, other commercial deliveries).			0.48%
	Garbage/Recycling:	2-3 times/week	4 HT Trips/day	0.24%
	Restaurant Truck Deliveries:	3 times/week	2 HT trips/day	0.12%
	Vendor Deliveries:	2-4 times/week	2 MT trips/day	0.12%

Source

1 *Based on shuttle bus and commercial deliveries for similar hotel operations in the City of Cupertino.*

Solid Waste

	Rate	Unit	lbs/employee/year	tons/year
Employees*	8.10	lbs/employee/day	307,165.57	153.58
Hotel Room*	2.00	lbs/hotel room/day	113,880.00	56.94
				210.52

*Rate use in Village Hotel IS/MND.
**Consistent with COCU-13 IS/MND Utility Section.

Water Use

	Rate	Unit	Sqft	gal/sqft/year	Indoor Water (gpy)	Outdoor Water (gpy)
Hotel*	0.50	gal/sqft/day	450.00	12,811,500.00	5,694,000.00	7,117,500.00
Restaurant	1.10	gal/sqft/day	10,358.00	4,158,737.00	4,158,737.00	0
				16,970,237.00		

Septic Tank	0%
Aerobic	100%
Facultative Lagoons	0%

*Rate Used in Marina Plaza IS/MND.
**Consistent with COCU-13 IS/MND Utility Section.

Architectural Coating

See architectural coating calculations for construction

Water Mitigation

Install Low Flow Bathroom Faucet	32	% Reduction in flow
Install Low Flow Kitchen Faucet	18	% Reduction in flow
Install Low Flow Toilet	20	% Reduction in flow
Install Low Flow Shower	20	% Reduction in flow
Use Water Efficiency Irrigation System	6.1	% Reduction in flow

Energy Mitigation

2019 Building Energy Efficiency Standards

Non-Residential Exceed Title 24	30%	Improvement over 2016[1]

[1] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards, Adoption. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

Traffic Mitigation

Land Use & Site Enhancement

Project Setting	Suburban Center

Commute

Implement Trip Reduction Program

% employee eligible	100
Program Type	Voluntary

Changes to the CalEEMod Defaults - Fleet Mix 2022

Trips 1,660

Default	LDA		LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.6105	0.03678	0.18308	0.10612	0.01441	0.00501	0.01261	0.02112	0.00214	0.00155	0.00531	0.00063	0.00074	100%
Trips	1,013	61	304	176	24	8	21	35	4	3	9	1	1	1660
Percent	84%			11%	6%									100%
without buses/MH	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0	0	0.005312	0.000000	0	99%
Percent	84%			11%	5%									99%
Adjusted without buses/MH	0.610498	0.036775	0.183084	0.106123	0.015785	0.005484	0.013810	0.023128	0.000000	0.000000	0.005818	0.000000	0.000000	
Percent check	84%			11%	6%									100%
Assumed Mix	99.5%			0.12%	0.36%									100%
adjusted with Assumed	**0.726590**	**0.043768**	**0.217899**	**0.001205**	**0.000980**	**0.000341**	**0.000858**	**0.001436**	**0.000000**	**0.000000**	**0.006924**	**0.000000**	**0.000000**	**100%**
Trips	1,206	73	362	2	2	1	1	2	0	0	11	0	0	1660
Percent check	100%			0%	0%									
Check	*1,652*			*2*	*6*									

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Based on similar hotel projects for the City of Cupertino

CalEEMod Inputs--Operation

Name:	De anza Hotel Project
Project Location:	10931 North De Anza Boulevard
County/Air Basin:	Santa Clara County
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2019, 2022
Utility Company:	Pacific Gas and Electric

Total Site Acreage: 1.29

Existing CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Goodyear Auto Service Center	Retail	Automobile Care Center	8.32	1000 sqft	0.19	8,323
Asphalt	Parking	Parking lot	17.70	1000 sqft	0.41	17,700
					0.19	

Carbon Intensity of Electricity for Proposed Project

CO_2**	CH_4**	N_2O**	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh
10.84	0.000033	0.000004	10.85

**Global Warming Potentials from the Climate Change 2007, IPCC Fourth Assessment Report (AR4).*

***Silicon Valley Clean Energy Power Mix from California Department of Energy. Utility Annual Power Content Labels for 2017. 2017 Silicon Valley Clean Energy Power Content Label. http://www.energy.ca.gov/pcl/labels/*

Trip Generations

	Existing	
Average Daily Trips	98	ADT
Adjusted Trip Rate	11.77	trips/unit

**Based on the Traffic Impact Analysis provided by Hexagon Transportation Consultants*

Energy Use

CalEEMod defaults used with historical data enabled

Solid Waste

	Rate*	Unit	lbs/100 sqft/year	tons/year
Goodyear Auto Service Center	0.90	lbs/100 sqft/day	27,341.06	13.67

**CalRecycle, Estimated Solid Waste Generation Rates: https://www2.calrecycle.ca.gov/wastecharacterization/general/rates*

Water Use

	Rate*	Unit	gal/1000 sqft/year
Goodyear Auto Service Center	80.00	gal/1000 sqft/day	243,031.60

Septic Tank	0%
Aerobic	100%
Facultative Lagoons	0%

**City of Los Angeles, Bureau of Engineering, March 20, 2002. (applies to auto repair, fast food, and retail)*

Architectural Coating

BAAQMD Regulation 8 Rule 3

Interior Paint VOC content:	100
Exterior Paint VOC content:	150

Non-Residential Architectural Coating

Percentage of Buildings' Interior Painted:	100%
Percentage of Buildings' Exterior Painted:	100%

Structures	Land Use Square Feet	CalEEMod Paintable Surface Area Multiplier	Total Paintable Surface Area[2]	Paintable Interior Area[1]	Paintable Exterior Area[1]
Goodyear Auto Service Center	8,323	2	16,646	12,485	4,162
		Non-Residential Totals	**16,646**	**12,485**	**4,162**

Notes:

1 *CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

2 ** Applied CalEEMod Methodology in calculating total

Changes to the CalEEMod Defaults - Fleet Mix 2019

Trips 98

Default	LDA		LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.601	0.03912	0.18646	0.10977	0.01612	0.00497	0.01225	0.01984	0.00205	0.0016	0.00539	0.00062	0.00081	100%
Trips	59	4	18	11	2	0	1	2	0	0	1	0	0	98
Percent	83%			11%	6%									100%
without buses/MH	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0	0	0.005388	0.000000	0	99%
Percent	83%			11%	5%									99%
Adjusted without buses/MH	0.601004	0.039123	0.186461	0.109772	0.017663	0.005439	0.013420	0.021731	0.000000	0.000000	0.005902	0.000000	0.000000	
Percent check	83%			11%	6%									100%
Assumed Mix	97.0%			2.00%	1.00%									100%
adjusted with Assumed	**0.700277**	**0.045585**	**0.217260**	**0.020000**	**0.003032**	**0.000934**	**0.002304**	**0.003730**	**0.000000**	**0.000000**	**0.006877**	**0.000000**	**0.000000**	**100%**
Trips	69	4	21	2	0	0	0	0	0	0	1	0	0	98
Percent check	97%			2%	1%									
Check	*95*			*2*	*1*									

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Assumes a mix of approximately 97% passenger vehicles, 2% medium duty trucks, and 1% heavy duty trucks and buses.

Changes to the CalEEMod Defaults - Fleet Mix 2022

Trips 98

Default	LDA		LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.6105	0.03678	0.18308	0.10612	0.01441	0.00501	0.01261	0.02112	0.00214	0.00155	0.00531	0.00063	0.00074	100%
Trips	60	4	18	10	1	0	1	2	0	0	1	0	0	98
Percent	84%			11%	6%									100%
without buses/MH	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0	0	0.005312	0.000000	0	99%
Percent	84%			11%	5%									99%
Adjusted without buses/MH	0.610498	0.036775	0.183084	0.106123	0.015785	0.005484	0.013810	0.023128	0.000000	0.000000	0.005818	0.000000	0.000000	
Percent check	84%			11%	6%									100%
Assumed Mix	97.0%			2.00%	1.00%									100%
adjusted with Assumed	**0.708205**	**0.042661**	**0.212386**	**0.020000**	**0.002712**	**0.000942**	**0.002373**	**0.003973**	**0.000000**	**0.000000**	**0.006749**	**0.000000**	**0.000000**	**100%**
Trips	69	4	21	2	0	0	0	0	0	0	1	0	0	98
Percent check	97%			2%	1%									
Check	*95*			*2*	*1*									

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles that the regional VMT. Assumes a mix of approximately 97% passenger vehicles, 2% medium duty trucks, and 1% heavy duty trucks and buses.

City of Cupertino Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for Silicon Valley Clean Energy (SVCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply SVCE. The team consulted SVCE's Power Content Label, which identifies the percent of SVCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with SVCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects SVCE's particular sources of electricity.

$MTCO_2e$			$MTCO_2e$/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	0.00052518
Large hydro	45.00%	45.00%	0.00000000
Natural gas	0.00%	0.00%	0.00040027
Nuclear	0.00%	0.00%	0.00000000
Oil	0.00%	0.00%	0.00061190
Other/unspecified	0.00%	0.00%	0.00042800
Biomass	6.00%	6.00%	0.00006741
Geothermal	1.00%	1.00%	0.00008747
Small hydro	2.00%	2.00%	0.00000000
Solar	10.00%	10.00%	0.00000000
Wind	36.00%	36.00%	0.00000000
	100.00%	100.00%	

	MTCO2e/kWh
Emission factor	**0.000004919**
Calculation check	0.000004919
	MTCO2e/MWh
	0.0049192742
	lbsCO2e/MWh
	10.845

$MTCO_2$			$MTCO_2$/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	0.000525182
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	0.000400274
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	0.0006119
Other/unspecified	0.00%	0.00%	0.00042508
Biomass	6.00%	6.00%	6.7393E-05
Geothermal	1.00%	1.00%	8.74747E-05
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

	MTCO2/kWh
Emission factor	**0.0000049183**

MTCO2/MWh

0.004918328266

lbsCO2/MWh

10.843

$MTCH_4$			$MTCO_4$/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	5.89676E-12
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	7.52558E-12
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	2.00932E-11
Other/unspecified	0.00%	0.00%	0.00000005
Biomass	6.00%	6.00%	2.51224E-10
Geothermal	1.00%	1.00%	0
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

	MTCH4/kWh
Emission factor	**0.000000000015**

MTCH4/MWh
0.0000000150734142
lbsCH4/MWh
0.000033

MTN_2O			MTN_2O/kWh
Source	**Percent**	**Adjusted percent**	**Emission factor**
Coal	0.00%	0.00%	8.61834E-12
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	8.14808E-13
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	3.97229E-12
Other/unspecified	0.00%	0.00%	0.00
Biomass	6.00%	6.00%	3.29476E-11
Geothermal	1.00%	1.00%	0
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

	MTN2O/kWh
Emission factor	**0.000000000**

MTN2O/MWh
0.00000000197685409
lbsN2O/MWh
0.00000436

Emission Factor Calculator

Select GWPs	AR5

CO_2	1
CH_4	28
N_2O	265

Fuel type	MWh generated	lbs CO_2/kWh	lbs CH_4/kWh	lbs N_2O/kWh	lbs CO_2e/kWh	$MTCO_2e$/kWh
Biomass	4,754,601	0.148575	0.000001	0.000000	0.148609	0.000067
Coal	325,958	1.157816	0.000000	0.000000	1.157821	0.000525
Gas	84,035,036	0.882443	0.000000	0.000000	0.882444	0.000400
Geothermal	11,104,158	0.192847	0.000000	0.000000	0.192847	0.000087
Hydro	25,140,892	0.000000	0.000000	0.000000	0.000000	-
Nuclear	18,907,578	0.000000	0.000000	0.000000	0.000000	-
Oil	120,698	1.348996	0.000000	0.000000	1.348999	0.000612
Solar	17,486,623	0.009991	0.000000	0.000000	0.009991	0.000005
Wind	11,337,510	0.000000	0.000000	0.000000	0.000000	-
Other	5,422,246					0.000428

AR2

AR4

AR5

	AR2	AR4	AR5
CO_2	1	1	1
CH_4	21	25	28
N_2O	310	298	265

kWh per MWh	1,000
kWh per GWh	1,000,000
lbs per MT	2204.6

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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	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

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)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Carbon Intensity factors adjusted for Silicon Valley Clean Energy Power.

Land Use - Refer to CalEEMod inputs.

Construction Phase - Adjusted schedule based on project description.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No grading soil haul equipment.

Off-road Equipment -

Trips and VMT - Refer to CalEEMod inputs.

Demolition -

Grading -

Vehicle Trips - Refer to CalEEMod inputs.

Energy Use -

Water And Wastewater - Refer to CalEEMod inputs.

Solid Waste - Refer to CalEEmod inputs.

Construction Off-road Equipment Mitigation - BAAQMD BMPs

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Fleet Mix - Refer to CalEEmod inputs fleet mix.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	350.00

tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	5.00
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
tblGrading	MaterialExported	0.00	71,054.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	122,256.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01
tblLandUse	LotAcreage	5.20	0.42
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	85.41	56.94
tblSolidWaste	SolidWasteGenerationRate	9.45	153.58
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	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

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	0.1000	1.9185	0.7872	4.7600e-003	0.1341	0.0320	0.1662	0.0383	0.0300	0.0683	0.0000	453.1895	453.1895	0.0327	0.0000	454.0077
2021	0.1559	1.5784	1.3701	3.7400e-003	0.1320	0.0602	0.1921	0.0359	0.0554	0.0913	0.0000	341.3113	341.3113	0.0497	0.0000	342.5541
2022	0.7313	0.1805	0.1861	4.6000e-004	0.0149	7.1100e-003	0.0220	4.0300e-003	6.6300e-003	0.0107	0.0000	41.3202	41.3202	6.2900e-003	0.0000	41.4775
Maximum	**0.7313**	**1.9185**	**1.3701**	**4.7600e-003**	**0.1341**	**0.0602**	**0.1921**	**0.0383**	**0.0554**	**0.0913**	**0.0000**	**453.1895**	**453.1895**	**0.0497**	**0.0000**	**454.0077**

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	0.1000	1.9185	0.7872	4.7600e-003	0.1130	0.0320	0.1450	0.0318	0.0300	0.0618	0.0000	453.1894	453.1894	0.0327	0.0000	454.0077
2021	0.1559	1.5784	1.3701	3.7400e-003	0.1222	0.0602	0.1824	0.0335	0.0554	0.0888	0.0000	341.3112	341.3112	0.0497	0.0000	342.5539
2022	0.7313	0.1805	0.1861	4.6000e-004	0.0138	7.1100e-003	0.0209	3.7500e-003	6.6300e-003	0.0104	0.0000	41.3202	41.3202	6.2900e-003	0.0000	41.4775
Maximum	**0.7313**	**1.9185**	**1.3701**	**4.7600e-003**	**0.1222**	**0.0602**	**0.1824**	**0.0335**	**0.0554**	**0.0888**	**0.0000**	**453.1894**	**453.1894**	**0.0497**	**0.0000**	**454.0077**

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	ROG	NOx	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**	**11.42**	**0.00**	**8.43**	**11.72**	**0.00**	**5.38**	**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)
7	**7-14-2020**	**10-13-2020**	2.7246	2.7246
8	**10-14-2020**	**1-13-2021**	0.4794	0.4794
9	**1-14-2021**	**4-13-2021**	0.4283	0.4283
10	**4-14-2021**	**7-13-2021**	0.4302	0.4302
11	**7-14-2021**	**10-13-2021**	0.4354	0.4354
12	**10-14-2021**	**1-13-2022**	0.4322	0.4322
13	**1-14-2022**	**4-13-2022**	0.7998	0.7998
		Highest	2.7246	2.7246

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	0.5956	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-003
Energy	0.0408	0.3711	0.3117	2.2300e-003		0.0282	0.0282		0.0282	0.0282	0.0000	412.9969	412.9969	7.7400e-003	7.4100e-003	415.3976
Mobile	0.3178	0.3513	3.4731	9.9300e-003	1.1566	7.5200e-003	1.1641	0.3074	6.9300e-003	0.3143	0.0000	898.5926	898.5926	0.0284	0.0000	899.3025
Waste						0.0000	0.0000		0.0000	0.0000	42.7337	0.0000	42.7337	2.5255	0.0000	105.8708
Water						0.0000	0.0000		0.0000	0.0000	3.4859	0.3846	3.8705	0.0120	7.5800e-003	6.4296
Total	**0.9542**	**0.7224**	**3.7874**	**0.0122**	**1.1566**	**0.0357**	**1.1923**	**0.3074**	**0.0351**	**0.3425**	**46.2196**	**1,311.9790**	**1,358.1986**	**2.5736**	**0.0150**	**1,427.0057**

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	0.5956	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-003
Energy	0.0320	0.2908	0.2443	1.7400e-003		0.0221	0.0221		0.0221	0.0221	0.0000	324.5503	324.5503	6.0700e-003	5.8000e-003	326.4314
Mobile	0.3137	0.3403	3.3609	9.5100e-003	1.1053	7.2600e-003	1.1126	0.2938	6.6900e-003	0.3005	0.0000	860.6339	860.6339	0.0274	0.0000	861.3178
Waste						0.0000	0.0000		0.0000	0.0000	42.7337	0.0000	42.7337	2.5255	0.0000	105.8708
Water						0.0000	0.0000		0.0000	0.0000	2.7887	0.3247	3.1135	9.6000e-003	6.0600e-003	5.1607
Total	**0.9413**	**0.6311**	**3.6076**	**0.0113**	**1.1053**	**0.0294**	**1.1347**	**0.2938**	**0.0288**	**0.3226**	**45.5224**	**1,185.5139**	**1,231.0363**	**2.5685**	**0.0119**	**1,298.7859**

	ROG	NOx	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	**1.35**	**12.64**	**4.75**	**7.48**	**4.43**	**17.80**	**4.83**	**4.43**	**18.04**	**5.83**	**1.51**	**9.64**	**9.36**	**0.20**	**20.88**	**8.99**

3.0 Construction Detail

Construction Phase

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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: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 198,921; Non-Residential Outdoor: 66,307; Striped Parking Area: 5,807 (Architectural Coating – sqft)

OffRoad Equipment

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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	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading Soil Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Grading Soil Haul	Rubber Tired Dozers	0	1.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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	4	10.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	0	0.00	0.00	8,882.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	96.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	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

Clean Paved 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					6.9000e-003	0.0000	6.9000e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**6.9000e-003**	**2.3400e-003**	**9.2400e-003**	**1.0400e-003**	**2.2300e-003**	**3.2700e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**5.8000e-004**	**0.0139**	**4.2100e-003**	**4.0000e-005**	**1.2000e-003**	**5.0000e-005**	**1.2500e-003**	**3.3000e-004**	**5.0000e-005**	**3.8000e-004**	**0.0000**	**3.8757**	**3.8757**	**1.7000e-004**	**0.0000**	**3.8799**

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					2.9500e-003	0.0000	2.9500e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**2.9500e-003**	**2.3400e-003**	**5.2900e-003**	**4.5000e-004**	**2.2300e-003**	**2.6800e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	6.2000e-004	4.0000e-005	6.6000e-004	1.7000e-004	4.0000e-005	2.1000e-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	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**5.8000e-004**	**0.0139**	**4.2100e-003**	**4.0000e-005**	**1.1100e-003**	**5.0000e-005**	**1.1600e-003**	**3.1000e-004**	**5.0000e-005**	**3.6000e-004**	**0.0000**	**3.8757**	**3.8757**	**1.7000e-004**	**0.0000**	**3.8799**

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					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**1.3300e-003**	**8.4000e-004**	**2.1700e-003**	**1.4000e-004**	**7.7000e-004**	**9.1000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0850	0.0850	0.0000	0.0000	0.0851
Total	**8.0000e-005**	**1.1700e-003**	**6.1000e-004**	**0.0000**	**1.7000e-004**	**1.0000e-005**	**1.7000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.3465**	**0.3465**	**1.0000e-005**	**0.0000**	**0.3468**

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					5.7000e-004	0.0000	5.7000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**5.7000e-004**	**8.4000e-004**	**1.4100e-003**	**6.0000e-005**	**7.7000e-004**	**8.3000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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	6.0000e-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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0850	0.0850	0.0000	0.0000	0.0851
Total	**8.0000e-005**	**1.1700e-003**	**6.1000e-004**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.3465**	**0.3465**	**1.0000e-005**	**0.0000**	**0.3468**

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					0.0113	0.0000	0.0113	6.2100e-003	0.0000	6.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1181	0.1143	1.8000e-004		7.0100e-003	7.0100e-003		6.6900e-003	6.6900e-003	0.0000	15.6113	15.6113	2.9500e-003	0.0000	15.6851
Total	**0.0130**	**0.1181**	**0.1143**	**1.8000e-004**	**0.0113**	**7.0100e-003**	**0.0183**	**6.2100e-003**	**6.6900e-003**	**0.0129**	**0.0000**	**15.6113**	**15.6113**	**2.9500e-003**	**0.0000**	**15.6851**

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**7.4000e-004**	**7.1900e-003**	**5.5700e-003**	**3.0000e-005**	**1.5800e-003**	**4.0000e-005**	**1.6300e-003**	**4.3000e-004**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**2.5889**	**2.5889**	**1.0000e-004**	**0.0000**	**2.5913**

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					4.8300e-003	0.0000	4.8300e-003	2.6500e-003	0.0000	2.6500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1181	0.1143	1.8000e-004		7.0100e-003	7.0100e-003		6.6900e-003	6.6900e-003	0.0000	15.6113	15.6113	2.9500e-003	0.0000	15.6851
Total	**0.0130**	**0.1181**	**0.1143**	**1.8000e-004**	**4.8300e-003**	**7.0100e-003**	**0.0118**	**2.6500e-003**	**6.6900e-003**	**9.3400e-003**	**0.0000**	**15.6113**	**15.6113**	**2.9500e-003**	**0.0000**	**15.6851**

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	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**7.4000e-004**	**7.1900e-003**	**5.5700e-003**	**3.0000e-005**	**1.4700e-003**	**4.0000e-005**	**1.5000e-003**	**4.0000e-004**	**4.0000e-005**	**4.4000e-004**	**0.0000**	**2.5889**	**2.5889**	**1.0000e-004**	**0.0000**	**2.5913**

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					4.0200e-003	0.0000	4.0200e-003	6.1000e-004	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0200e-003**	**0.0000**	**4.0200e-003**	**6.1000e-004**	**0.0000**	**6.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0369	1.2887	0.2639	3.5000e-003	0.0753	4.1900e-003	0.0795	0.0207	4.0100e-003	0.0247	0.0000	338.7186	338.7186	0.0155	0.0000	339.1060
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0369**	**1.2887**	**0.2639**	**3.5000e-003**	**0.0753**	**4.1900e-003**	**0.0795**	**0.0207**	**4.0100e-003**	**0.0247**	**0.0000**	**338.7186**	**338.7186**	**0.0155**	**0.0000**	**339.1060**

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					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.7200e-003**	**0.0000**	**1.7200e-003**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0369	1.2887	0.2639	3.5000e-003	0.0702	4.1900e-003	0.0744	0.0195	4.0100e-003	0.0235	0.0000	338.7186	338.7186	0.0155	0.0000	339.1060
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0369**	**1.2887**	**0.2639**	**3.5000e-003**	**0.0702**	**4.1900e-003**	**0.0744**	**0.0195**	**4.0100e-003**	**0.0235**	**0.0000**	**338.7186**	**338.7186**	**0.0155**	**0.0000**	**339.1060**

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	0.0276	0.2833	0.2364	3.6000e-004		0.0167	0.0167		0.0154	0.0154	0.0000	32.0194	32.0194	0.0104	0.0000	32.2783
Total	**0.0276**	**0.2833**	**0.2364**	**3.6000e-004**		**0.0167**	**0.0167**		**0.0154**	**0.0154**	**0.0000**	**32.0194**	**32.0194**	**0.0104**	**0.0000**	**32.2783**

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	4.8200e-003	0.1385	0.0369	3.3000e-004	8.0000e-003	6.9000e-004	8.6900e-003	2.3100e-003	6.6000e-004	2.9700e-003	0.0000	31.7914	31.7914	1.4600e-003	0.0000	31.8279
Worker	0.0102	7.3300e-003	0.0769	2.3000e-004	0.0244	1.6000e-004	0.0245	6.4800e-003	1.4000e-004	6.6200e-003	0.0000	20.8942	20.8942	5.1000e-004	0.0000	20.9070
Total	**0.0150**	**0.1458**	**0.1138**	**5.6000e-004**	**0.0324**	**8.5000e-004**	**0.0332**	**8.7900e-003**	**8.0000e-004**	**9.5900e-003**	**0.0000**	**52.6856**	**52.6856**	**1.9700e-003**	**0.0000**	**52.7349**

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	0.0276	0.2833	0.2364	3.6000e-004		0.0167	0.0167		0.0154	0.0154	0.0000	32.0193	32.0193	0.0104	0.0000	32.2782
Total	**0.0276**	**0.2833**	**0.2364**	**3.6000e-004**		**0.0167**	**0.0167**		**0.0154**	**0.0154**	**0.0000**	**32.0193**	**32.0193**	**0.0104**	**0.0000**	**32.2782**

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	4.8200e-003	0.1385	0.0369	3.3000e-004	7.4900e-003	6.9000e-004	8.1800e-003	2.1900e-003	6.6000e-004	2.8400e-003	0.0000	31.7914	31.7914	1.4600e-003	0.0000	31.8279
Worker	0.0102	7.3300e-003	0.0769	2.3000e-004	0.0225	1.6000e-004	0.0226	6.0100e-003	1.4000e-004	6.1600e-003	0.0000	20.8942	20.8942	5.1000e-004	0.0000	20.9070
Total	**0.0150**	**0.1458**	**0.1138**	**5.6000e-004**	**0.0300**	**8.5000e-004**	**0.0308**	**8.2000e-003**	**8.0000e-004**	**9.0000e-003**	**0.0000**	**52.6856**	**52.6856**	**1.9700e-003**	**0.0000**	**52.7349**

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	0.1011	1.0420	0.9479	1.4900e-003		0.0584	0.0584		0.0537	0.0537	0.0000	130.6071	130.6071	0.0422	0.0000	131.6631
Total	**0.1011**	**1.0420**	**0.9479**	**1.4900e-003**		**0.0584**	**0.0584**		**0.0537**	**0.0537**	**0.0000**	**130.6071**	**130.6071**	**0.0422**	**0.0000**	**131.6631**

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	0.0162	0.5096	0.1357	1.3400e-003	0.0326	1.1300e-003	0.0338	9.4300e-003	1.0800e-003	0.0105	0.0000	128.4527	128.4527	5.6000e-003	0.0000	128.5926
Worker	0.0386	0.0267	0.2866	9.1000e-004	0.0994	6.3000e-004	0.1000	0.0264	5.8000e-004	0.0270	0.0000	82.2516	82.2516	1.8700e-003	0.0000	82.2983
Total	**0.0548**	**0.5363**	**0.4222**	**2.2500e-003**	**0.1320**	**1.7600e-003**	**0.1337**	**0.0359**	**1.6600e-003**	**0.0375**	**0.0000**	**210.7042**	**210.7042**	**7.4700e-003**	**0.0000**	**210.8909**

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	0.1011	1.0420	0.9479	1.4900e-003		0.0584	0.0584		0.0537	0.0537	0.0000	130.6069	130.6069	0.0422	0.0000	131.6630
Total	**0.1011**	**1.0420**	**0.9479**	**1.4900e-003**		**0.0584**	**0.0584**		**0.0537**	**0.0537**	**0.0000**	**130.6069**	**130.6069**	**0.0422**	**0.0000**	**131.6630**

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	0.0162	0.5096	0.1357	1.3400e-003	0.0306	1.1300e-003	0.0317	8.9200e-003	1.0800e-003	0.0100	0.0000	128.4527	128.4527	5.6000e-003	0.0000	128.5926
Worker	0.0386	0.0267	0.2866	9.1000e-004	0.0916	6.3000e-004	0.0923	0.0245	5.8000e-004	0.0251	0.0000	82.2516	82.2516	1.8700e-003	0.0000	82.2983
Total	**0.0548**	**0.5363**	**0.4222**	**2.2500e-003**	**0.1222**	**1.7600e-003**	**0.1240**	**0.0335**	**1.6600e-003**	**0.0351**	**0.0000**	**210.7042**	**210.7042**	**7.4700e-003**	**0.0000**	**210.8909**

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	8.5800e-003	0.0878	0.0894	1.4000e-004		4.6500e-003	4.6500e-003		4.2800e-003	4.2800e-003	0.0000	12.5185	12.5185	4.0500e-003	0.0000	12.6197
Total	**8.5800e-003**	**0.0878**	**0.0894**	**1.4000e-004**		**4.6500e-003**	**4.6500e-003**		**4.2800e-003**	**4.2800e-003**	**0.0000**	**12.5185**	**12.5185**	**4.0500e-003**	**0.0000**	**12.6197**

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	1.4500e-003	0.0461	0.0122	1.3000e-004	3.1300e-003	9.0000e-005	3.2200e-003	9.0000e-004	9.0000e-005	9.9000e-004	0.0000	12.1862	12.1862	5.1000e-004	0.0000	12.1990
Worker	3.4500e-003	2.3000e-003	0.0252	8.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	5.0000e-005	2.5900e-003	0.0000	7.5923	7.5923	1.6000e-004	0.0000	7.5963
Total	**4.9000e-003**	**0.0484**	**0.0375**	**2.1000e-004**	**0.0127**	**1.5000e-004**	**0.0128**	**3.4300e-003**	**1.4000e-004**	**3.5800e-003**	**0.0000**	**19.7785**	**19.7785**	**6.7000e-004**	**0.0000**	**19.7953**

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	8.5800e-003	0.0878	0.0894	1.4000e-004		4.6500e-003	4.6500e-003		4.2800e-003	4.2800e-003	0.0000	12.5185	12.5185	4.0500e-003	0.0000	12.6197
Total	**8.5800e-003**	**0.0878**	**0.0894**	**1.4000e-004**		**4.6500e-003**	**4.6500e-003**		**4.2800e-003**	**4.2800e-003**	**0.0000**	**12.5185**	**12.5185**	**4.0500e-003**	**0.0000**	**12.6197**

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	1.4500e-003	0.0461	0.0122	1.3000e-004	2.9300e-003	9.0000e-005	3.0200e-003	8.5000e-004	9.0000e-005	9.4000e-004	0.0000	12.1862	12.1862	5.1000e-004	0.0000	12.1990
Worker	3.4500e-003	2.3000e-003	0.0252	8.0000e-005	8.7800e-003	6.0000e-005	8.8400e-003	2.3500e-003	5.0000e-005	2.4000e-003	0.0000	7.5923	7.5923	1.6000e-004	0.0000	7.5963
Total	**4.9000e-003**	**0.0484**	**0.0375**	**2.1000e-004**	**0.0117**	**1.5000e-004**	**0.0119**	**3.2000e-003**	**1.4000e-004**	**3.3400e-003**	**0.0000**	**19.7785**	**19.7785**	**6.7000e-004**	**0.0000**	**19.7953**

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	3.2300e-003	0.0296	0.0352	6.0000e-005		1.4800e-003	1.4800e-003		1.3800e-003	1.3800e-003	0.0000	4.6984	4.6984	1.3700e-003	0.0000	4.7326
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0296**	**0.0352**	**6.0000e-005**		**1.4800e-003**	**1.4800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**4.6984**	**4.6984**	**1.3700e-003**	**0.0000**	**4.7326**

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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

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	3.2300e-003	0.0296	0.0352	6.0000e-005		1.4800e-003	1.4800e-003		1.3800e-003	1.3800e-003	0.0000	4.6984	4.6984	1.3700e-003	0.0000	4.7326
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0296**	**0.0352**	**6.0000e-005**		**1.4800e-003**	**1.4800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**4.6984**	**4.6984**	**1.3700e-003**	**0.0000**	**4.7326**

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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

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	0.7117					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	**0.7137**	**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	5.5000e-004	3.6000e-004	3.9900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2021	1.2021	3.0000e-005	0.0000	1.2028
Total	**5.5000e-004**	**3.6000e-004**	**3.9900e-003**	**1.0000e-005**	**1.5100e-003**	**1.0000e-005**	**1.5200e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2021**	**1.2021**	**3.0000e-005**	**0.0000**	**1.2028**

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	0.7117					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	**0.7137**	**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	5.5000e-004	3.6000e-004	3.9900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2021	1.2021	3.0000e-005	0.0000	1.2028
Total	**5.5000e-004**	**3.6000e-004**	**3.9900e-003**	**1.0000e-005**	**1.3900e-003**	**1.0000e-005**	**1.4000e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.2021**	**1.2021**	**3.0000e-005**	**0.0000**	**1.2028**

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	0.3137	0.3403	3.3609	9.5100e-003	1.1053	7.2600e-003	1.1126	0.2938	6.6900e-003	0.3005	0.0000	860.6339	860.6339	0.0274	0.0000	861.3178
Unmitigated	0.3178	0.3513	3.4731	9.9300e-003	1.1566	7.5200e-003	1.1641	0.3074	6.9300e-003	0.3143	0.0000	898.5926	898.5926	0.0284	0.0000	899.3025

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	3,013,858
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	3,013,858

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	0.726590	0.043768	0.217899	0.001205	0.000980	0.000341	0.000858	0.001436	0.000000	0.000000	0.006924	0.000000	0.000000
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	8.0105	8.0105	0.0000	0.0000	8.0105
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.0123	9.0123	0.0000	0.0000	9.0123
NaturalGas Mitigated	0.0320	0.2908	0.2443	1.7400e-003		0.0221	0.0221		0.0221	0.0221	0.0000	316.5398	316.5398	6.0700e-003	5.8000e-003	318.4209
NaturalGas Unmitigated	0.0408	0.3711	0.3117	2.2300e-003		0.0282	0.0282		0.0282	0.0282	0.0000	403.9845	403.9845	7.7400e-003	7.4100e-003	406.3852

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	5.41716e+006	0.0292	0.2656	0.2231	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	289.0805	289.0805	5.5400e-003	5.3000e-003	290.7983
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		**0.0408**	**0.3711**	**0.3117**	**2.2200e-003**		**0.0282**	**0.0282**		**0.0282**	**0.0282**	**0.0000**	**403.9845**	**403.9845**	**7.7400e-003**	**7.4100e-003**	**406.3852**

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	3.96623e+006	0.0214	0.1944	0.1633	1.1700e-003		0.0148	0.0148		0.0148	0.0148	0.0000	211.6531	211.6531	4.0600e-003	3.8800e-003	212.9108
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	1.9655e+006	0.0106	0.0964	0.0809	5.8000e-004		7.3200e-003	7.3200e-003		7.3200e-003	7.3200e-003	0.0000	104.8867	104.8867	2.0100e-003	1.9200e-003	105.5100
Total		**0.0320**	**0.2908**	**0.2443**	**1.7500e-003**		**0.0221**	**0.0221**		**0.0221**	**0.0221**	**0.0000**	**316.5398**	**316.5398**	**6.0700e-003**	**5.8000e-003**	**318.4209**

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	2.7639	0.0000	0.0000	2.7639
Hotel	931591	4.5806	0.0000	0.0000	4.5806
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	301	1.4800e-003	0.0000	0.0000	1.4800e-003
Quality Restaurant	338914	1.6664	0.0000	0.0000	1.6664
Total		**9.0123**	**0.0000**	**0.0000**	**9.0123**

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	449303	2.2092	0.0000	0.0000	2.2092
Hotel	856403	4.2109	0.0000	0.0000	4.2109
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	301	1.4800e-003	0.0000	0.0000	1.4800e-003
Quality Restaurant	323159	1.5890	0.0000	0.0000	1.5890
Total		**8.0105**	**0.0000**	**0.0000**	**8.0105**

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	0.5956	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-003
Unmitigated	0.5956	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-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	0.0712					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5242					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-003
Total	**0.5956**	**2.0000e-005**	**2.5400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9300e-003**	**4.9300e-003**	**1.0000e-005**	**0.0000**	**5.2600e-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	0.0712					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5242					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-004	2.0000e-005	2.5400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.9300e-003	4.9300e-003	1.0000e-005	0.0000	5.2600e-003
Total	**0.5956**	**2.0000e-005**	**2.5400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.9300e-003**	**4.9300e-003**	**1.0000e-005**	**0.0000**	**5.2600e-003**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.1135	9.6000e-003	6.0600e-003	5.1607
Unmitigated	3.8705	0.0120	7.5800e-003	6.4296

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	5.694 / 7.1175	2.2885	6.9300e-003	4.3800e-003	3.7674
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	4.15874 / 0	1.5820	5.0600e-003	3.2000e-003	2.6621
Total		**3.8705**	**0.0120**	**7.5800e-003**	**6.4295**

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	4.5552 / 6.68333	1.8479	5.5500e-003	3.5000e-003	3.0310
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	3.32699 / 0	1.2656	4.0500e-003	2.5600e-003	2.1297
Total		**3.1135**	**9.6000e-003**	**6.0600e-003**	**5.1607**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.7337	2.5255	0.0000	105.8708
Unmitigated	42.7337	2.5255	0.0000	105.8708

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	56.94	11.5583	0.6831	0.0000	28.6352
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	153.58	31.1754	1.8424	0.0000	77.2356
Total		**42.7337**	**2.5255**	**0.0000**	**105.8708**

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	56.94	11.5583	0.6831	0.0000	28.6352
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	153.58	31.1754	1.8424	0.0000	77.2356
Total		**42.7337**	**2.5255**	**0.0000**	**105.8708**

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 Hotel 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	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

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)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Carbon Intensity factors adjusted for Silicon Valley Clean Energy Power.

Land Use - Refer to CalEEMod inputs.

Construction Phase - Adjusted schedule based on project description.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No grading soil haul equipment.

Off-road Equipment -

Trips and VMT - Refer to CalEEMod inputs.

Demolition -

Grading -

Vehicle Trips - Refer to CalEEMod inputs.

Energy Use -

Water And Wastewater - Refer to CalEEMod inputs.

Solid Waste - Refer to CalEEmod inputs.

Construction Off-road Equipment Mitigation - BAAQMD BMPs

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Water Mitigation -

Fleet Mix - Refer to CalEEmod inputs fleet mix.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
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	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	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	350.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	5.00
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
tblGrading	MaterialExported	0.00	71,054.00
tblLandUse	LandUseSquareFeet	95,920.00	95,923.00
tblLandUse	LandUseSquareFeet	12,860.00	0.00
tblLandUse	LandUseSquareFeet	226,512.00	122,256.00
tblLandUse	LandUseSquareFeet	10,360.00	10,358.00
tblLandUse	LotAcreage	2.20	0.01

tblLandUse	LotAcreage	5.20	0.42
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	85.41	56.94
tblSolidWaste	SolidWasteGenerationRate	9.45	153.58
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	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	82,125.00
tblWater	IndoorWaterUseRate	3,144,609.26	4,158,737.00
tblWater	OutdoorWaterUseRate	439,690.68	0.00
tblWater	OutdoorWaterUseRate	200,719.74	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

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	0.1000	1.9185	0.7872	4.7600e-003	0.1341	0.0320	0.1662	0.0383	0.0300	0.0683	0.0000	453.1895	453.1895	0.0327	0.0000	454.0077
2021	0.1559	1.5784	1.3701	3.7400e-003	0.1320	0.0602	0.1921	0.0359	0.0554	0.0913	0.0000	341.3113	341.3113	0.0497	0.0000	342.5541
2022	0.7313	0.1805	0.1861	4.6000e-004	0.0149	7.1100e-003	0.0220	4.0300e-003	6.6300e-003	0.0107	0.0000	41.3202	41.3202	6.2900e-003	0.0000	41.4775
Maximum	**0.7313**	**1.9185**	**1.3701**	**4.7600e-003**	**0.1341**	**0.0602**	**0.1921**	**0.0383**	**0.0554**	**0.0913**	**0.0000**	**453.1895**	**453.1895**	**0.0497**	**0.0000**	**454.0077**

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	0.1000	1.9185	0.7872	4.7600e-003	0.1130	9.1600e-003	0.1221	0.0318	8.6600e-003	0.0405	0.0000	453.1894	453.1894	0.0327	0.0000	454.0077
2021	0.1559	1.5784	1.3701	3.7400e-003	0.1222	0.0105	0.1327	0.0335	9.7200e-003	0.0432	0.0000	341.3112	341.3112	0.0497	0.0000	342.5539
2022	0.7313	0.1805	0.1861	4.6000e-004	0.0138	1.3900e-003	0.0151	3.7500e-003	1.3100e-003	5.0600e-003	0.0000	41.3202	41.3202	6.2900e-003	0.0000	41.4775
Maximum	**0.7313**	**1.9185**	**1.3701**	**4.7600e-003**	**0.1222**	**0.0105**	**0.1327**	**0.0335**	**9.7200e-003**	**0.0432**	**0.0000**	**453.1894**	**453.1894**	**0.0497**	**0.0000**	**454.0077**

	ROG	NOx	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	11.42	78.78	29.01	11.72	78.59	47.86	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)
7	7-14-2020	10-13-2020	2.7246	2.7246
8	10-14-2020	1-13-2021	0.4794	0.4794
9	1-14-2021	4-13-2021	0.4283	0.4283
10	4-14-2021	7-13-2021	0.4302	0.4302
11	7-14-2021	10-13-2021	0.4354	0.4354
12	10-14-2021	1-13-2022	0.4322	0.4322
13	1-14-2022	4-13-2022	0.7998	0.7998
		Highest	2.7246	2.7246

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: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 198,921; Non-Residential Outdoor: 66,307; Striped Parking Area:

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	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading Soil Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Grading Soil Haul	Rubber Tired Dozers	0	1.00	247	0.40
Grading Soil Haul	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	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	4	10.00	4.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading Soil Haul	0	0.00	0.00	8,882.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	96.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	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

Clean Paved 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					6.9000e-003	0.0000	6.9000e-003	1.0400e-003	0.0000	1.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**6.9000e-003**	**2.3400e-003**	**9.2400e-003**	**1.0400e-003**	**2.2300e-003**	**3.2700e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**5.8000e-004**	**0.0139**	**4.2100e-003**	**4.0000e-005**	**1.2000e-003**	**5.0000e-005**	**1.2500e-003**	**3.3000e-004**	**5.0000e-005**	**3.8000e-004**	**0.0000**	**3.8757**	**3.8757**	**1.7000e-004**	**0.0000**	**3.8799**

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					2.9500e-003	0.0000	2.9500e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		3.5000e-004	3.5000e-004		3.3000e-004	3.3000e-004	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**2.9500e-003**	**3.5000e-004**	**3.3000e-003**	**4.5000e-004**	**3.3000e-004**	**7.8000e-004**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	6.2000e-004	4.0000e-005	6.6000e-004	1.7000e-004	4.0000e-005	2.1000e-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	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5229	0.5229	2.0000e-005	0.0000	0.5235
Worker	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**5.8000e-004**	**0.0139**	**4.2100e-003**	**4.0000e-005**	**1.1100e-003**	**5.0000e-005**	**1.1600e-003**	**3.1000e-004**	**5.0000e-005**	**3.6000e-004**	**0.0000**	**3.8757**	**3.8757**	**1.7000e-004**	**0.0000**	**3.8799**

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					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**1.3300e-003**	**8.4000e-004**	**2.1700e-003**	**1.4000e-004**	**7.7000e-004**	**9.1000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0850	0.0850	0.0000	0.0000	0.0851
Total	**8.0000e-005**	**1.1700e-003**	**6.1000e-004**	**0.0000**	**1.7000e-004**	**1.0000e-005**	**1.7000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.3465**	**0.3465**	**1.0000e-005**	**0.0000**	**0.3468**

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					5.7000e-004	0.0000	5.7000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**5.7000e-004**	**1.3000e-004**	**7.0000e-004**	**6.0000e-005**	**1.2000e-004**	**1.8000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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	6.0000e-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	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0850	0.0850	0.0000	0.0000	0.0851
Total	**8.0000e-005**	**1.1700e-003**	**6.1000e-004**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.3465**	**0.3465**	**1.0000e-005**	**0.0000**	**0.3468**

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					0.0113	0.0000	0.0113	6.2100e-003	0.0000	6.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1181	0.1143	1.8000e-004		7.0100e-003	7.0100e-003		6.6900e-003	6.6900e-003	0.0000	15.6113	15.6113	2.9500e-003	0.0000	15.6851

Total	**0.0130**	**0.1181**	**0.1143**	**1.8000e-004**	**0.0113**	**7.0100e-003**	**0.0183**	**6.2100e-003**	**6.6900e-003**	**0.0129**	**0.0000**	**15.6113**	**15.6113**	**2.9500e-003**	**0.0000**	**15.6851**

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**7.4000e-004**	**7.1900e-003**	**5.5700e-003**	**3.0000e-005**	**1.5800e-003**	**4.0000e-005**	**1.6300e-003**	**4.3000e-004**	**4.0000e-005**	**4.7000e-004**	**0.0000**	**2.5889**	**2.5889**	**1.0000e-004**	**0.0000**	**2.5913**

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					4.8300e-003	0.0000	4.8300e-003	2.6500e-003	0.0000	2.6500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1181	0.1143	1.8000e-004		1.0500e-003	1.0500e-003		1.0000e-003	1.0000e-003	0.0000	15.6113	15.6113	2.9500e-003	0.0000	15.6851
Total	**0.0130**	**0.1181**	**0.1143**	**1.8000e-004**	**4.8300e-003**	**1.0500e-003**	**5.8800e-003**	**2.6500e-003**	**1.0000e-003**	**3.6500e-003**	**0.0000**	**15.6113**	**15.6113**	**2.9500e-003**	**0.0000**	**15.6851**

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	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.5687	1.5687	7.0000e-005	0.0000	1.5705
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**7.4000e-004**	**7.1900e-003**	**5.5700e-003**	**3.0000e-005**	**1.4700e-003**	**4.0000e-005**	**1.5000e-003**	**4.0000e-004**	**4.0000e-005**	**4.4000e-004**	**0.0000**	**2.5889**	**2.5889**	**1.0000e-004**	**0.0000**	**2.5913**

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					4.0200e-003	0.0000	4.0200e-003	6.1000e-004	0.0000	6.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0200e-003**	**0.0000**	**4.0200e-003**	**6.1000e-004**	**0.0000**	**6.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0369	1.2887	0.2639	3.5000e-003	0.0753	4.1900e-003	0.0795	0.0207	4.0100e-003	0.0247	0.0000	338.7186	338.7186	0.0155	0.0000	339.1060
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0369**	**1.2887**	**0.2639**	**3.5000e-003**	**0.0753**	**4.1900e-003**	**0.0795**	**0.0207**	**4.0100e-003**	**0.0247**	**0.0000**	**338.7186**	**338.7186**	**0.0155**	**0.0000**	**339.1060**

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					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.7200e-003**	**0.0000**	**1.7200e-003**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0369	1.2887	0.2639	3.5000e-003	0.0702	4.1900e-003	0.0744	0.0195	4.0100e-003	0.0235	0.0000	338.7186	338.7186	0.0155	0.0000	339.1060
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0369**	**1.2887**	**0.2639**	**3.5000e-003**	**0.0702**	**4.1900e-003**	**0.0744**	**0.0195**	**4.0100e-003**	**0.0235**	**0.0000**	**338.7186**	**338.7186**	**0.0155**	**0.0000**	**339.1060**

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	0.0276	0.2833	0.2364	3.6000e-004		0.0167	0.0167		0.0154	0.0154	0.0000	32.0194	32.0194	0.0104	0.0000	32.2783
Total	**0.0276**	**0.2833**	**0.2364**	**3.6000e-004**		**0.0167**	**0.0167**		**0.0154**	**0.0154**	**0.0000**	**32.0194**	**32.0194**	**0.0104**	**0.0000**	**32.2783**

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	4.8200e-003	0.1385	0.0369	3.3000e-004	8.0000e-003	6.9000e-004	8.6900e-003	2.3100e-003	6.6000e-004	2.9700e-003	0.0000	31.7914	31.7914	1.4600e-003	0.0000	31.8279
Worker	0.0102	7.3300e-003	0.0769	2.3000e-004	0.0244	1.6000e-004	0.0245	6.4800e-003	1.4000e-004	6.6200e-003	0.0000	20.8942	20.8942	5.1000e-004	0.0000	20.9070
Total	**0.0150**	**0.1458**	**0.1138**	**5.6000e-004**	**0.0324**	**8.5000e-004**	**0.0332**	**8.7900e-003**	**8.0000e-004**	**9.5900e-003**	**0.0000**	**52.6856**	**52.6856**	**1.9700e-003**	**0.0000**	**52.7349**

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	0.0276	0.2833	0.2364	3.6000e-004		2.5100e-003	2.5100e-003		2.3100e-003	2.3100e-003	0.0000	32.0193	32.0193	0.0104	0.0000	32.2782
Total	**0.0276**	**0.2833**	**0.2364**	**3.6000e-004**		**2.5100e-003**	**2.5100e-003**		**2.3100e-003**	**2.3100e-003**	**0.0000**	**32.0193**	**32.0193**	**0.0104**	**0.0000**	**32.2782**

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	4.8200e-003	0.1385	0.0369	3.3000e-004	7.4900e-003	6.9000e-004	8.1800e-003	2.1900e-003	6.6000e-004	2.8400e-003	0.0000	31.7914	31.7914	1.4600e-003	0.0000	31.8279
Worker	0.0102	7.3300e-003	0.0769	2.3000e-004	0.0225	1.6000e-004	0.0226	6.0100e-003	1.4000e-004	6.1600e-003	0.0000	20.8942	20.8942	5.1000e-004	0.0000	20.9070
Total	**0.0150**	**0.1458**	**0.1138**	**5.6000e-004**	**0.0300**	**8.5000e-004**	**0.0308**	**8.2000e-003**	**8.0000e-004**	**9.0000e-003**	**0.0000**	**52.6856**	**52.6856**	**1.9700e-003**	**0.0000**	**52.7349**

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	0.1011	1.0420	0.9479	1.4900e-003		0.0584	0.0584		0.0537	0.0537	0.0000	130.6071	130.6071	0.0422	0.0000	131.6631

Total	**0.1011**	**1.0420**	**0.9479**	**1.4900e-003**		**0.0584**	**0.0584**		**0.0537**	**0.0537**	**0.0000**	**130.6071**	**130.6071**	**0.0422**	**0.0000**	**131.6631**

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	0.0162	0.5096	0.1357	1.3400e-003	0.0326	1.1300e-003	0.0338	9.4300e-003	1.0800e-003	0.0105	0.0000	128.4527	128.4527	5.6000e-003	0.0000	128.5926
Worker	0.0386	0.0267	0.2866	9.1000e-004	0.0994	6.3000e-004	0.1000	0.0264	5.8000e-004	0.0270	0.0000	82.2516	82.2516	1.8700e-003	0.0000	82.2983
Total	**0.0548**	**0.5363**	**0.4222**	**2.2500e-003**	**0.1320**	**1.7600e-003**	**0.1337**	**0.0359**	**1.6600e-003**	**0.0375**	**0.0000**	**210.7042**	**210.7042**	**7.4700e-003**	**0.0000**	**210.8909**

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	0.1011	1.0420	0.9479	1.4900e-003		8.7600e-003	8.7600e-003		8.0600e-003	8.0600e-003	0.0000	130.6069	130.6069	0.0422	0.0000	131.6630
Total	**0.1011**	**1.0420**	**0.9479**	**1.4900e-003**		**8.7600e-003**	**8.7600e-003**		**8.0600e-003**	**8.0600e-003**	**0.0000**	**130.6069**	**130.6069**	**0.0422**	**0.0000**	**131.6630**

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	0.0162	0.5096	0.1357	1.3400e-003	0.0306	1.1300e-003	0.0317	8.9200e-003	1.0800e-003	0.0100	0.0000	128.4527	128.4527	5.6000e-003	0.0000	128.5926
Worker	0.0386	0.0267	0.2866	9.1000e-004	0.0916	6.3000e-004	0.0923	0.0245	5.8000e-004	0.0251	0.0000	82.2516	82.2516	1.8700e-003	0.0000	82.2983
Total	**0.0548**	**0.5363**	**0.4222**	**2.2500e-003**	**0.1222**	**1.7600e-003**	**0.1240**	**0.0335**	**1.6600e-003**	**0.0351**	**0.0000**	**210.7042**	**210.7042**	**7.4700e-003**	**0.0000**	**210.8909**

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	8.5800e-003	0.0878	0.0894	1.4000e-004		4.6500e-003	4.6500e-003		4.2800e-003	4.2800e-003	0.0000	12.5185	12.5185	4.0500e-003	0.0000	12.6197
Total	**8.5800e-003**	**0.0878**	**0.0894**	**1.4000e-004**		**4.6500e-003**	**4.6500e-003**		**4.2800e-003**	**4.2800e-003**	**0.0000**	**12.5185**	**12.5185**	**4.0500e-003**	**0.0000**	**12.6197**

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	1.4500e-003	0.0461	0.0122	1.3000e-004	3.1300e-003	9.0000e-005	3.2200e-003	9.0000e-004	9.0000e-005	9.9000e-004	0.0000	12.1862	12.1862	5.1000e-004	0.0000	12.1990
Worker	3.4500e-003	2.3000e-003	0.0252	8.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	5.0000e-005	2.5900e-003	0.0000	7.5923	7.5923	1.6000e-004	0.0000	7.5963
Total	**4.9000e-003**	**0.0484**	**0.0375**	**2.1000e-004**	**0.0127**	**1.5000e-004**	**0.0128**	**3.4300e-003**	**1.4000e-004**	**3.5800e-003**	**0.0000**	**19.7785**	**19.7785**	**6.7000e-004**	**0.0000**	**19.7953**

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	8.5800e-003	0.0878	0.0894	1.4000e-004		7.0000e-004	7.0000e-004		6.4000e-004	6.4000e-004	0.0000	12.5185	12.5185	4.0500e-003	0.0000	12.6197
Total	**8.5800e-003**	**0.0878**	**0.0894**	**1.4000e-004**		**7.0000e-004**	**7.0000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**12.5185**	**12.5185**	**4.0500e-003**	**0.0000**	**12.6197**

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	1.4500e-003	0.0461	0.0122	1.3000e-004	2.9300e-003	9.0000e-005	3.0200e-003	8.5000e-004	9.0000e-005	9.4000e-004	0.0000	12.1862	12.1862	5.1000e-004	0.0000	12.1990
Worker	3.4500e-003	2.3000e-003	0.0252	8.0000e-005	8.7800e-003	6.0000e-005	8.8400e-003	2.3500e-003	5.0000e-005	2.4000e-003	0.0000	7.5923	7.5923	1.6000e-004	0.0000	7.5963
Total	**4.9000e-003**	**0.0484**	**0.0375**	**2.1000e-004**	**0.0117**	**1.5000e-004**	**0.0119**	**3.2000e-003**	**1.4000e-004**	**3.3400e-003**	**0.0000**	**19.7785**	**19.7785**	**6.7000e-004**	**0.0000**	**19.7953**

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	3.2300e-003	0.0296	0.0352	6.0000e-005		1.4800e-003	1.4800e-003		1.3800e-003	1.3800e-003	0.0000	4.6984	4.6984	1.3700e-003	0.0000	4.7326
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0296**	**0.0352**	**6.0000e-005**		**1.4800e-003**	**1.4800e-003**		**1.3800e-003**	**1.3800e-003**	**0.0000**	**4.6984**	**4.6984**	**1.3700e-003**	**0.0000**	**4.7326**

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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

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	3.2300e-003	0.0296	0.0352	6.0000e-005		4.0000e-004	4.0000e-004		3.9000e-004	3.9000e-004	0.0000	4.6984	4.6984	1.3700e-003	0.0000	4.7326
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0296**	**0.0352**	**6.0000e-005**		**4.0000e-004**	**4.0000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**4.6984**	**4.6984**	**1.3700e-003**	**0.0000**	**4.7326**

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	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

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	0.7117					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	**0.7137**	**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**

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	5.5000e-004	3.6000e-004	3.9900e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2021	1.2021	3.0000e-005	0.0000	1.2028
Total	**5.5000e-004**	**3.6000e-004**	**3.9900e-003**	**1.0000e-005**	**1.5100e-003**	**1.0000e-005**	**1.5200e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2021**	**1.2021**	**3.0000e-005**	**0.0000**	**1.2028**

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	0.7117					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		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.7137**	**0.0141**	**0.0181**	**3.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

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	5.5000e-004	3.6000e-004	3.9900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.2021	1.2021	3.0000e-005	0.0000	1.2028
Total	**5.5000e-004**	**3.6000e-004**	**3.9900e-003**	**1.0000e-005**	**1.3900e-003**	**1.0000e-005**	**1.4000e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**1.2021**	**1.2021**	**3.0000e-005**	**0.0000**	**1.2028**

De Anza Hotel Existing Operation 2019

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	17.70	1000sqft	0.41	17,700.00	0
Automobile Care Center	8.32	1000sqft	0.19	8,323.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Silicon Valley Clean Energy Power Content Label

Land Use -

Vehicle Trips - Refer to CalEEMod inputs.

Energy Use -

Water And Wastewater - Refer to CalEEMod inputs.

Solid Waste - Refer to CalEEmod inputs.

Fleet Mix - Refer to CalEEMod inputs Fleet Mix.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	3.7300e-003
tblFleetMix	LDA	0.60	0.70
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.19	0.22
tblFleetMix	LHD1	0.02	3.0320e-003
tblFleetMix	LHD2	4.9650e-003	9.3400e-004
tblFleetMix	MCY	5.3880e-003	6.8770e-003
tblFleetMix	MDV	0.11	0.02
tblFleetMix	MH	8.1200e-004	0.00
tblFleetMix	MHD	0.01	2.3040e-003
tblFleetMix	OBUS	2.0450e-003	0.00
tblFleetMix	SBUS	6.1600e-004	0.00
tblFleetMix	UBUS	1.6020e-003	0.00
tblLandUse	LandUseSquareFeet	8,320.00	8,323.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	31.78	13.67
tblVehicleTrips	ST_TR	23.72	11.77
tblVehicleTrips	SU_TR	11.88	11.77
tblVehicleTrips	WD_TR	23.72	11.77
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	782,754.81	243,031.60
tblWater	OutdoorWaterUseRate	479,752.95	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.4538	13.4538	2.5000e-004	2.4000e-004	13.5310
Mobile	0.0213	0.0257	0.1784	3.7000e-004	0.0358	3.2000e-004	0.0361	9.5300e-003	3.0000e-004	9.8200e-003	0.0000	33.6558	33.6558	1.4000e-003	0.0000	33.6908
Waste						0.0000	0.0000		0.0000	0.0000	2.7749	0.0000	2.7749	0.1640	0.0000	6.8747
Water						0.0000	0.0000		0.0000	0.0000	0.0860	6.4700e-003	0.0925	3.0000e-004	1.9000e-004	0.1556
Total	**0.0609**	**0.0377**	**0.1886**	**4.4000e-004**	**0.0358**	**1.2300e-003**	**0.0371**	**9.5300e-003**	**1.2100e-003**	**0.0107**	**2.8609**	**47.1166**	**49.9774**	**0.1659**	**4.3000e-004**	**54.2525**

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.4538	13.4538	2.5000e-004	2.4000e-004	13.5310
Mobile	0.0213	0.0257	0.1784	3.7000e-004	0.0358	3.2000e-004	0.0361	9.5300e-003	3.0000e-004	9.8200e-003	0.0000	33.6558	33.6558	1.4000e-003	0.0000	33.6908
Waste						0.0000	0.0000		0.0000	0.0000	2.7749	0.0000	2.7749	0.1640	0.0000	6.8747
Water						0.0000	0.0000		0.0000	0.0000	0.0860	6.4700e-003	0.0925	3.0000e-004	1.9000e-004	0.1556
Total	**0.0609**	**0.0377**	**0.1886**	**4.4000e-004**	**0.0358**	**1.2300e-003**	**0.0371**	**9.5300e-003**	**1.2100e-003**	**0.0107**	**2.8609**	**47.1166**	**49.9774**	**0.1659**	**4.3000e-004**	**54.2525**

	ROG	NOx	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**

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	0.0213	0.0257	0.1784	3.7000e-004	0.0358	3.2000e-004	0.0361	9.5300e-003	3.0000e-004	9.8200e-003	0.0000	33.6558	33.6558	1.4000e-003	0.0000	33.6908
Unmitigated	0.0213	0.0257	0.1784	3.7000e-004	0.0358	3.2000e-004	0.0361	9.5300e-003	3.0000e-004	9.8200e-003	0.0000	33.6558	33.6558	1.4000e-003	0.0000	33.6908

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	97.93	97.93	97.93	97,553	97,553
Parking Lot	0.00	0.00	0.00		
Total	97.93	97.93	97.93	97,553	97,553

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
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.700277	0.045585	0.217260	0.020000	0.003032	0.000934	0.002304	0.003730	0.000000	0.000000	0.006877	0.000000	0.000000
Parking Lot	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812

5.0 Energy Detail

Historical Energy Use: Y

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	0.4625	0.4625	0.0000	0.0000	0.4625
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.4625	0.4625	0.0000	0.0000	0.4625
NaturalGas Mitigated	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9913	12.9913	2.5000e-004	2.4000e-004	13.0685
NaturalGas Unmitigated	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9913	12.9913	2.5000e-004	2.4000e-004	13.0685

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					
Automobile Care Center	243448	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9913	12.9913	2.5000e-004	2.4000e-004	13.0685
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
Total		**1.3100e-003**	**0.0119**	**0.0100**	**7.0000e-005**		**9.1000e-004**	**9.1000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**12.9913**	**12.9913**	**2.5000e-004**	**2.4000e-004**	**13.0685**

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					
Automobile Care Center	243448	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9913	12.9913	2.5000e-004	2.4000e-004	13.0685
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
Total		**1.3100e-003**	**0.0119**	**0.0100**	**7.0000e-005**		**9.1000e-004**	**9.1000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**12.9913**	**12.9913**	**2.5000e-004**	**2.4000e-004**	**13.0685**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78485.9	0.3859	0.0000	0.0000	0.3859
Parking Lot	15576	0.0766	0.0000	0.0000	0.0766
Total		**0.4625**	**0.0000**	**0.0000**	**0.4625**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78485.9	0.3859	0.0000	0.0000	0.3859
Parking Lot	15576	0.0766	0.0000	0.0000	0.0766
Total		**0.4625**	**0.0000**	**0.0000**	**0.4625**

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Unmitigated	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004

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	4.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.0384**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

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	4.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.0384**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0925	3.0000e-004	1.9000e-004	0.1556
Unmitigated	0.0925	3.0000e-004	1.9000e-004	0.1556

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.243032 / 0	0.0925	3.0000e-004	1.9000e-004	0.1556
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0925**	**3.0000e-004**	**1.9000e-004**	**0.1556**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.243032 / 0	0.0925	3.0000e-004	1.9000e-004	0.1556
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0925**	**3.0000e-004**	**1.9000e-004**	**0.1556**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.7749	0.1640	0.0000	6.8747
Unmitigated	2.7749	0.1640	0.0000	6.8747

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	13.67	2.7749	0.1640	0.0000	6.8747
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.7749**	**0.1640**	**0.0000**	**6.8747**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	13.67	2.7749	0.1640	0.0000	6.8747
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.7749**	**0.1640**	**0.0000**	**6.8747**

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 Hotel Existing Operation 2022

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	17.70	1000sqft	0.41	17,700.00	0
Automobile Care Center	8.32	1000sqft	0.19	8,320.00	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)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Silicon Valley Clean Energy Power Content Label

Land Use -

Vehicle Trips - Refer to CalEEMod inputs.

Energy Use -

Water And Wastewater - Refer to CalEEMod inputs.

Solid Waste - Refer to CalEEmod inputs.

Fleet Mix - Refer to CalEEMod inputs Fleet Mix.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.02	3.9734e-003
tblFleetMix	LDA	0.61	0.71
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LHD1	0.01	2.7119e-003
tblFleetMix	LHD2	5.0070e-003	9.4209e-004
tblFleetMix	MCY	5.3120e-003	6.7487e-003
tblFleetMix	MDV	0.11	0.02
tblFleetMix	MH	7.4000e-004	0.00
tblFleetMix	MHD	0.01	2.3726e-003
tblFleetMix	OBUS	2.1440e-003	0.00
tblFleetMix	SBUS	6.2700e-004	0.00
tblFleetMix	UBUS	1.5480e-003	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	31.78	13.67
tblVehicleTrips	ST_TR	23.72	11.70
tblVehicleTrips	SU_TR	11.88	11.70
tblVehicleTrips	WD_TR	23.72	11.70
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	782,754.81	243,031.60
tblWater	OutdoorWaterUseRate	479,752.95	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.4490	13.4490	2.5000e-004	2.4000e-004	13.5262
Mobile	0.0164	0.0200	0.1360	3.3000e-004	0.0356	2.8000e-004	0.0359	9.4700e-003	2.6000e-004	9.7300e-003	0.0000	30.1523	30.1523	1.0900e-003	0.0000	30.1796
Waste						0.0000	0.0000		0.0000	0.0000	2.7749	0.0000	2.7749	0.1640	0.0000	6.8747
Water						0.0000	0.0000		0.0000	0.0000	0.0860	6.4700e-003	0.0925	3.0000e-004	1.9000e-004	0.1556
Total	**0.0561**	**0.0319**	**0.1462**	**4.0000e-004**	**0.0356**	**1.1900e-003**	**0.0368**	**9.4700e-003**	**1.1700e-003**	**0.0106**	**2.8609**	**43.6082**	**46.4691**	**0.1656**	**4.3000e-004**	**50.7364**

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Energy	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.4490	13.4490	2.5000e-004	2.4000e-004	13.5262
Mobile	0.0164	0.0200	0.1360	3.3000e-004	0.0356	2.8000e-004	0.0359	9.4700e-003	2.6000e-004	9.7300e-003	0.0000	30.1523	30.1523	1.0900e-003	0.0000	30.1796
Waste						0.0000	0.0000		0.0000	0.0000	2.7749	0.0000	2.7749	0.1640	0.0000	6.8747
Water						0.0000	0.0000		0.0000	0.0000	0.0860	6.4700e-003	0.0925	3.0000e-004	1.9000e-004	0.1556
Total	**0.0561**	**0.0319**	**0.1462**	**4.0000e-004**	**0.0356**	**1.1900e-003**	**0.0368**	**9.4700e-003**	**1.1700e-003**	**0.0106**	**2.8609**	**43.6082**	**46.4691**	**0.1656**	**4.3000e-004**	**50.7364**

	ROG	NOx	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**

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	0.0164	0.0200	0.1360	3.3000e-004	0.0356	2.8000e-004	0.0359	9.4700e-003	2.6000e-004	9.7300e-003	0.0000	30.1523	30.1523	1.0900e-003	0.0000	30.1796
Unmitigated	0.0164	0.0200	0.1360	3.3000e-004	0.0356	2.8000e-004	0.0359	9.4700e-003	2.6000e-004	9.7300e-003	0.0000	30.1523	30.1523	1.0900e-003	0.0000	30.1796

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	97.34	97.34	97.34	96,973	96,973
Parking Lot	0.00	0.00	0.00		
Total	97.34	97.34	97.34	96,973	96,973

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
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.708205	0.042661	0.212386	0.020000	0.002712	0.000942	0.002373	0.003973	0.000000	0.000000	0.006749	0.000000	0.000000
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

5.0 Energy Detail

Historical Energy Use: Y

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	0.4624	0.4624	0.0000	0.0000	0.4624
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.4624	0.4624	0.0000	0.0000	0.4624
NaturalGas Mitigated	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9866	12.9866	2.5000e-004	2.4000e-004	13.0638
NaturalGas Unmitigated	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9866	12.9866	2.5000e-004	2.4000e-004	13.0638

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					
Automobile Care Center	243360	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9866	12.9866	2.5000e-004	2.4000e-004	13.0638
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
Total		**1.3100e-003**	**0.0119**	**0.0100**	**7.0000e-005**		**9.1000e-004**	**9.1000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**12.9866**	**12.9866**	**2.5000e-004**	**2.4000e-004**	**13.0638**

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					
Automobile Care Center	243360	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	12.9866	12.9866	2.5000e-004	2.4000e-004	13.0638
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
Total		**1.3100e-003**	**0.0119**	**0.0100**	**7.0000e-005**		**9.1000e-004**	**9.1000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**12.9866**	**12.9866**	**2.5000e-004**	**2.4000e-004**	**13.0638**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78457.6	0.3858	0.0000	0.0000	0.3858
Parking Lot	15576	0.0766	0.0000	0.0000	0.0766
Total		**0.4624**	**0.0000**	**0.0000**	**0.4624**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78457.6	0.3858	0.0000	0.0000	0.3858
Parking Lot	15576	0.0766	0.0000	0.0000	0.0766
Total		**0.4624**	**0.0000**	**0.0000**	**0.4624**

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	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Unmitigated	0.0384	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004

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	4.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.0384**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

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	4.7100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.6000e-004	4.6000e-004	0.0000	0.0000	5.0000e-004
Total	**0.0384**	**0.0000**	**2.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**4.6000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0925	3.0000e-004	1.9000e-004	0.1556
Unmitigated	0.0925	3.0000e-004	1.9000e-004	0.1556

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.243032 / 0	0.0925	3.0000e-004	1.9000e-004	0.1556
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0925**	**3.0000e-004**	**1.9000e-004**	**0.1556**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.243032 / 0	0.0925	3.0000e-004	1.9000e-004	0.1556
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0925**	**3.0000e-004**	**1.9000e-004**	**0.1556**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.7749	0.1640	0.0000	6.8747
Unmitigated	2.7749	0.1640	0.0000	6.8747

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	13.67	2.7749	0.1640	0.0000	6.8747
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.7749**	**0.1640**	**0.0000**	**6.8747**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	13.67	2.7749	0.1640	0.0000	6.8747
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**2.7749**	**0.1640**	**0.0000**	**6.8747**

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

Criteria Air Pollutant Emissions Summary - Construction

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total		0.99	3.68	2.34	0.01	0.25	0.10	0.35	0.07	0.09	0.16

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite		0.87	1.64	1.49	0.00	0.01	0.09	0.10	0.00	0.09	0.09
Total Offsite		0.11	2.04	0.85	0.01	0.24	0.01	0.25	0.07	0.01	0.07

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020		0.10	1.92	0.79	0.00	0.11	0.03	0.14	0.03	0.03	0.06
Total 2021		0.16	1.58	1.37	0.00	0.12	0.06	0.18	0.03	0.06	0.09
Total 2022		0.73	0.18	0.19	0.00	0.01	0.01	0.02	0.00	0.01	0.01

FOR CONSTRUCTION RISK ASSESSMENT - Unmitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite		0.05	0.46	0.40	0.00	0.01	0.03	0.04	0.00	0.03	0.03
2020 Offsite		0.05	1.46	0.39	0.00	0.10	0.01	0.11	0.03	0.00	0.03
2021 Onsite		0.10	1.04	0.95	0.00	0.00	0.06	0.06	0.00	0.05	0.05
2021 Offsite		0.05	0.54	0.42	0.00	0.12	0.00	0.12	0.03	0.00	0.04
2022 Onsite		0.73	0.13	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01
2022 Offsite		0.01	0.05	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Demolition - 2020

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		4.34E-03	0.0394	0.0381	6.00E-05		2.34E-03	2.34E-03		2.23E-03	2.23E-03
Hauling		3.30E-04	0.0115	2.35E-03	3.00E-05	6.20E-04	4.00E-05	6.60E-04	1.70E-04	4.00E-05	2.10E-04
Vendor		8.00E-05	2.28E-03	6.10E-04	1.00E-05	1.20E-04	1.00E-05	1.30E-04	4.00E-05	1.00E-05	5.00E-05
Worker		1.70E-04	1.20E-04	1.25E-03	0.00E+00	3.70E-04	0.00E+00	3.70E-04	1.00E-04	0	1.00E-04
Total		4.92E-03	5.33E-02	4.23E-02	1.00E-04	4.06E-03	2.39E-03	6.45E-03	7.60E-04	2.28E-03	3.04E-03
TOTAL ONSITE		0.00	0.04	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Site Preparation - 2020

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						5.70E-04	0	5.70E-04	6.00E-05	0	6.00E-05
Off-Road		1.71E-03	0.0211	0.0102	2.00E-05		8.40E-04	8.40E-04		7.70E-04	7.70E-04
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		4.00E-05	1.14E-03	3.00E-04	0.00E+00	6.00E-05	1.00E-05	7.00E-05	2.00E-05	1.00E-05	2.00E-05
Worker		4.00E-05	3.00E-05	3.10E-04	0.00E+00	9.00E-05	0.00E+00	9.00E-05	2.00E-05	0	3.00E-05
Total		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading - 2020

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						4.83E-03	0	4.83E-03	2.65E-03	0	2.65E-03
Off-Road		0.013	0.1181	0.1143	1.80E-04		7.01E-03	7.01E-03		6.69E-03	6.69E-03
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		2.40E-04	6.83E-03	1.82E-03	2.00E-05	3.70E-04	3.00E-05	4.00E-04	1.10E-04	3.00E-05	1.40E-04
Worker		5.00E-04	3.60E-04	3.75E-03	1.00E-05	1.10E-03	1.00E-05	1.10E-03	2.90E-04	1.00E-05	3.00E-04
Total		1.37E-02	1.25E-01	1.20E-01	2.10E-04	6.30E-03	7.05E-03	1.33E-02	3.05E-03	6.73E-03	9.78E-03
TOTAL ONSITE		0.01	0.12	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01
TOTAL OFFSITE		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading Soil Haul - 2020

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						1.72E-03	0	1.72E-03	2.60E-04	0	2.60E-04
Off-Road		0	0	0	0		0	0		0	0
Hauling		3.69E-02	1.2887	2.64E-01	3.50E-03	7.02E-02	4.19E-03	7.44E-02	1.95E-02	4.01E-03	2.35E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0	0	0	0	0	0	0	0	0	0
Total		3.69E-02	1.29E+00	2.64E-01	3.50E-03	7.19E-02	4.19E-03	7.61E-02	1.98E-02	4.01E-03	2.38E-02
TOTAL ONSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.04	1.29	0.26	0.00	0.07	0.00	0.07	0.02	0.00	0.02

Building Construction - 2020

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.0276	0.2833	0.2364	3.60E-04		0.0167	0.0167		0.0154	0.0154
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		4.82E-03	0.1385	0.0369	3.30E-04	7.49E-03	6.90E-04	8.18E-03	2.19E-03	6.60E-04	2.84E-03
Worker		0.0102	7.33E-03	0.0769	2.30E-04	0.0225	1.60E-04	0.0226	6.01E-03	1.40E-04	6.16E-03
Total		0.04	0.43	0.35	0.00	0.03	0.02	0.05	0.01	0.02	0.02
TOTAL ONSITE		0.03	0.28	0.24	0.00	0.00	0.02	0.02	0.00	0.02	0.02
TOTAL OFFSITE		0.02	0.15	0.11	0.00	0.03	0.00	0.03	0.01	0.00	0.01

Building Construction - 2021

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.1011	1.042	0.9479	1.49E-03		0.0584	0.0584		0.0537	0.0537
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		1.62E-02	0.5096	0.1357	1.34E-03	3.06E-02	1.13E-03	3.17E-02	8.92E-03	1.08E-03	1.00E-02
Worker		3.86E-02	2.67E-02	0.2866	9.10E-04	0.0916	6.30E-04	0.0923	2.45E-02	5.80E-04	2.51E-02
Total		0.16	1.58	1.37	0.00	0.12	0.06	0.18	0.03	0.06	0.09
TOTAL ONSITE		0.10	1.04	0.95	0.00	0.00	0.06	0.06	0.00	0.05	0.05
TOTAL OFFSITE		0.05	0.54	0.42	0.00	0.12	0.00	0.12	0.03	0.00	0.04

Building Construction - 2022

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		8.58E-03	0.0878	0.0894	1.40E-04		4.65E-03	4.65E-03		4.28E-03	4.28E-03
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		1.45E-03	0.0461	0.0122	1.30E-04	2.93E-03	9.00E-05	3.02E-03	8.50E-04	9.00E-05	9.40E-04
Worker		3.45E-03	2.30E-03	0.0252	8.00E-05	8.78E-03	6.00E-05	8.84E-03	2.35E-03	5.00E-05	2.40E-03
Total		0.01	0.14	0.13	0.00	0.01	0.00	0.02	0.00	0.00	0.01
TOTAL ONSITE		0.01	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.05	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Paving - 2022

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		3.23E-03	0.0296	0.0352	6.00E-05		1.48E-03	1.48E-03		1.38E-03	1.38E-03
Paving		3.00E-05					0	0		0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		2.60E-04	1.70E-04	1.89E-03	1.00E-05	6.60E-04	0.00E+00	6.60E-04	1.80E-04	0.00E+00	1.80E-04
Total		0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Architectural Coating - 2022

Unmitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Arch. Coating		0.7117					0	0		0	0
Off-Road		2.05E-03	0.0141	0.0181	3.00E-05		8.20E-04	8.20E-04		8.20E-04	8.20E-04
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00
Worker		5.50E-04	3.60E-04	3.99E-03	1.00E-05	1.39E-03	1.00E-05	1.40E-03	3.70E-04	1.00E-05	3.80E-04
Total		0.71	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.71	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Criteria Air Pollutant Emissions Summary - Construction

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Unmitigated Run - with Best Control Measures for Fugitive Dust

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	4.65	17.31	11.03	0.04	1.17	0.47	1.64	0.32	0.43	0.76
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	1.83	35.21	14.44	0.09	2.07	0.59	2.66	0.58	0.55	1.14
TOTAL 2021	1.19	12.09	10.50	0.03	0.94	0.46	1.40	0.26	0.42	0.68
TOTAL 2022	26.59	6.56	6.76	0.02	0.50	0.26	0.76	0.14	0.24	0.38

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.86	8.48	7.32	0.01	0.18	0.4934	0.68	0.06	0.4604	0.52
2021 Onsite	0.77	7.98	7.26	0.01	0.00	0.4475	0.45	0.00	0.4115	0.41
2022 Onsite	26.39	4.78	5.19	0.01	0.00	0.2527	0.25	0.00	0.2356	0.24

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.98	26.73	7.12	0.08	1.89	0.0943	1.98	0.52	0.0901	0.61
2021 Offsite	0.42	4.11	3.24	0.02	0.94	0.0135	0.95	0.26	0.0127	0.27
2022 Offsite	0.21	1.78	1.57	0.01	0.50	0.0058	0.51	0.14	0.0055	0.14

Criteria Air Pollutant Emissions Summary - Construction - with Mitigation (Level 3 DPFs for Eq. > 50 hp)

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total		0.99	3.68	2.34	0.01	0.25	0.02	0.27	0.07	0.02	0.09

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite		0.87	1.64	1.49	0.00	0.01	0.01	0.02	0.00	0.01	0.02
Total Offsite		0.11	2.04	0.85	0.01	0.24	0.01	0.25	0.07	0.01	0.07

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020		0.10	1.92	0.79	0.00	0.11	0.01	0.12	0.03	0.01	0.04
Total 2021		0.16	1.58	1.37	0.00	0.12	0.01	0.13	0.03	0.01	0.04
Total 2022		0.73	0.18	0.19	0.00	0.01	0.00	0.02	0.00	0.00	0.01

FOR CONSTRUCTION RISK ASSESSMENT - Mitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite		0.05	0.46	0.40	0.00	0.01	0.00	0.01	0.00	0.00	0.01
2020 Offsite		0.05	1.46	0.39	0.00	0.10	0.01	0.11	0.03	0.00	0.03
2021 Onsite		0.10	1.04	0.95	0.00	0.00	0.01	0.01	0.00	0.01	0.01
2021 Offsite		0.05	0.54	0.42	0.00	0.12	0.00	0.12	0.03	0.00	0.04
2022 Onsite		0.73	0.13	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022 Offsite		0.01	0.05	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Demolition - 2020

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		4.34E-03	0.0394	0.0381	6.00E-05		3.50E-04	3.50E-04		3.30E-04	3.30E-04
Hauling		3.30E-04	0.0115	2.35E-03	3.00E-05	6.20E-04	4.00E-05	6.60E-04	1.70E-04	4.00E-05	2.10E-04
Vendor		8.00E-05	2.28E-03	6.10E-04	1.00E-05	1.20E-04	1.00E-05	1.30E-04	4.00E-05	1.00E-05	5.00E-05
Worker		1.70E-04	1.20E-04	1.25E-03	0.00E+00	3.70E-04	0.00E+00	3.70E-04	1.00E-04	0	1.00E-04
Total		4.92E-03	5.33E-02	4.23E-02	1.00E-04	4.06E-03	4.00E-04	4.46E-03	7.60E-04	3.80E-04	1.14E-03
TOTAL ONSITE		0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Site Preparation - 2020

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						5.70E-04	0	5.70E-04	6.00E-05	0	6.00E-05
Off-Road		1.71E-03	0.0211	0.0102	2.00E-05		1.30E-04	1.30E-04		1.20E-04	1.20E-04
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		4.00E-05	1.14E-03	3.00E-04	0.00E+00	6.00E-05	1.00E-05	7.00E-05	2.00E-05	1.00E-05	2.00E-05
Worker		4.00E-05	3.00E-05	3.10E-04	0.00E+00	9.00E-05	0.00E+00	9.00E-05	2.00E-05	0	3.00E-05
Total		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading - 2020

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						4.83E-03	0	4.83E-03	2.65E-03	0	2.65E-03
Off-Road		0.013	0.1181	0.1143	1.80E-04		1.05E-03	1.05E-03		1.00E-03	1.00E-03
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		2.40E-04	6.83E-03	1.82E-03	2.00E-05	3.70E-04	3.00E-05	4.00E-04	1.10E-04	3.00E-05	1.40E-04
Worker		5.00E-04	3.60E-04	3.75E-03	1.00E-05	1.10E-03	1.00E-05	1.10E-03	2.90E-04	1.00E-05	3.00E-04
Total		1.37E-02	1.25E-01	1.20E-01	2.10E-04	6.30E-03	1.09E-03	7.38E-03	3.05E-03	1.04E-03	4.09E-03
TOTAL ONSITE		0.01	0.12	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading Soil Haul - 2020

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						1.72E-03	0	1.72E-03	2.60E-04	0	2.60E-04
Off-Road		0	0	0	0		0	0		0	0
Hauling		3.69E-02	1.2887	2.64E-01	3.50E-03	7.02E-02	4.19E-03	7.44E-02	1.95E-02	4.01E-03	2.35E-02
Vendor		0	0	0	0	0	0	0	0	0	0
Worker		0	0	0	0	0	0	0	0	0	0
Total		3.69E-02	1.29E+00	2.64E-01	3.50E-03	7.19E-02	4.19E-03	7.61E-02	1.98E-02	4.01E-03	2.38E-02
TOTAL ONSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.04	1.29	0.26	0.00	0.07	0.00	0.07	0.02	0.00	0.02

Building Construction - 2020

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.0276	0.2833	0.2364	3.60E-04		0.00251	0.00251		0.00231	0.00231
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		4.82E-03	0.1385	0.0369	3.30E-04	7.49E-03	6.90E-04	8.18E-03	2.19E-03	6.60E-04	2.84E-03
Worker		0.0102	7.33E-03	0.0769	2.30E-04	0.0225	1.60E-04	0.0226	6.01E-03	1.40E-04	6.16E-03
Total		0.04	0.43	0.35	0.00	0.03	0.00	0.03	0.01	0.00	0.01
TOTAL ONSITE		0.03	0.28	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.02	0.15	0.11	0.00	0.03	0.00	0.03	0.01	0.00	0.01

Building Construction - 2021

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.1011	1.042	0.9479	1.49E-03		0.00876	0.00876		0.00806	0.00806
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		1.62E-02	0.5096	0.1357	1.34E-03	3.06E-02	1.13E-03	3.17E-02	8.92E-03	1.08E-03	1.00E-02
Worker		3.86E-02	2.67E-02	0.2866	9.10E-04	0.0916	6.30E-04	0.0923	2.45E-02	5.80E-04	2.51E-02
Total		0.16	1.58	1.37	0.00	0.12	0.01	0.13	0.03	0.01	0.04
TOTAL ONSITE		0.10	1.04	0.95	0.00	0.00	0.01	0.01	0.00	0.01	0.01
TOTAL OFFSITE		0.05	0.54	0.42	0.00	0.12	0.00	0.12	0.03	0.00	0.04

Building Construction - 2022

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		8.58E-03	0.0878	0.0894	1.40E-04		7.00E-04	7.00E-04		6.40E-04	6.40E-04
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		1.45E-03	0.0461	0.0122	1.30E-04	2.93E-03	9.00E-05	3.02E-03	8.50E-04	9.00E-05	9.40E-04
Worker		3.45E-03	2.30E-03	0.0252	8.00E-05	8.78E-03	6.00E-05	8.84E-03	2.35E-03	5.00E-05	2.40E-03
Total		0.01	0.14	0.13	0.00	0.01	0.00	0.01	0.00	0.00	0.00
TOTAL ONSITE		0.01	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.05	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Paving - 2022

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		3.23E-03	0.0296	0.0352	6.00E-05		4.00E-04	4.00E-04		3.90E-04	3.90E-04
Paving		3.00E-05					0	0		0	0
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Worker		2.60E-04	1.70E-04	1.89E-03	1.00E-05	6.60E-04	0.00E+00	6.60E-04	1.80E-04	0.00E+00	1.80E-04
Total		0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Architectural Coating - 2022

Mitigated Construction

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Arch. Coating		0.7117					0	0		0	0
Off-Road		2.05E-03	0.0141	0.0181	3.00E-05		1.20E-04	1.20E-04		1.20E-04	1.20E-04
Hauling		0	0	0	0	0	0	0	0	0	0
Vendor		0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00
Worker		5.50E-04	3.60E-04	3.99E-03	1.00E-05	1.39E-03	1.00E-05	1.40E-03	3.70E-04	1.00E-05	3.80E-04
Total		0.71	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ONSITE		0.71	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OFFSITE		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Criteria Air Pollutant Emissions Summary - Construction

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Mitigated Run - with Level 3 DPFs for Eq. > 50 hp and Best Control Measures for Fugitive Dust

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	4.65	17.31	11.03	0.04	1.17	0.10	1.27	0.32	0.09	0.42
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	1.83	35.21	14.44	0.09	2.07	0.17	2.24	0.58	0.16	0.74
TOTAL 2021	1.19	12.09	10.50	0.03	0.94	0.08	1.02	0.26	0.07	0.33
TOTAL 2022	26.59	6.56	6.76	0.02	0.50	0.05	0.55	0.14	0.05	0.18

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.86	8.48	7.32	0.01	0.18	0.0741	0.26	0.06	0.0690	0.13
2021 Onsite	0.77	7.98	7.26	0.01	0.00	0.0671	0.07	0.00	0.0618	0.06
2022 Onsite	26.39	4.78	5.19	0.01	0.00	0.0444	0.04	0.00	0.0418	0.04

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.98	26.73	7.12	0.08	1.89	0.0943	1.98	0.52	0.0901	0.61
2021 Offsite	0.42	4.11	3.24	0.02	0.94	0.0135	0.95	0.26	0.0127	0.27
2022 Offsite	0.21	1.78	1.57	0.01	0.50	0.0058	0.51	0.14	0.0055	0.14

Criteria Air Pollutant Emissions Summary - Operations

Existing Land Use - Total AnnualEmission Rates 2019

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	Tons/yr	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Area Sources		0.0384	0.00E+00	2.40E-04	0.00E+00		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Energy Use		1.31E-03	0.0119	0.01	7.00E-05		9.10E-04	9.10E-04		9.10E-04	9.10E-04
Mobile Sources		0.0213	0.0257	0.1784	3.70E-04	0.0358	3.20E-04	0.0361	9.53E-03	3.00E-04	9.82E-03
Waste Generation							0	0		0	0
Water/Wastewater							0	0		0	0
Total		0.06	0.04	0.19	0.00	0.04	0.00	0.04	0.01	0.00	0.01

Criteria Air Pollutant Emissions Summary - Operations

Existing Land Use - Total AnnualEmission Rates 2022											
						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	Tons/yr	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Area Sources		0.0384	0.00E+00	2.40E-04	0.00E+00		0.00E+00	0.00E+00		0.00E+00	0.00E+00
Energy Use		1.31E-03	0.0119	0.01	7.00E-05		9.10E-04	9.10E-04		9.10E-04	9.10E-04
Mobile Sources		0.0164	0.02	0.136	3.30E-04	0.0356	2.80E-04	0.0359	9.47E-03	2.60E-04	9.73E-03
Waste Generation							0	0		0	0
Water/Wastewater							0	0		0	0
Total		0.06	0.03	0.15	0.00	0.04	0.00	0.04	0.01	0.00	0.01

Proprosed Project - Total AnnualEmission Rates 2022											
						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	Tons/yr	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Area Sources		0.5956	2.00E-05	2.54E-03	0.00E+00		1.00E-05	1.00E-05		1.00E-05	1.00E-05
Energy Use		3.20E-02	0.2908	0.2443	1.74E-03		2.21E-02	2.21E-02		2.21E-02	2.21E-02
Mobile Sources		0.3137	0.3403	3.3609	9.51E-03	1.1053	7.26E-03	1.1126	0.2938	6.69E-03	0.3005
Waste Generation							0	0		0	0
Water/Wastewater							0	0		0	0
Total		0.94	0.63	3.61	0.01	1.11	0.03	1.13	0.29	0.03	0.32

Net AnnualEmission Rates											
						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	Tons/yr	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Area Sources		0.5572	0.00002	0.0023	0	0	0.00001	0.00001	0	0.00001	0.00001
Energy Use		0.03069	0.2789	0.2343	0.00167	0	0.02119	0.02119	0	0.02119	0.02119
Mobile Sources		0.2973	0.3203	3.2249	0.00918	1.0697	0.00698	1.0767	0.28433	0.00643	0.29077
Waste Generation		0	0	0	0	0	0	0	0	0	0
Water/Wastewater		0	0	0	0	0	0	0	0	0	0
Total		0.89	0.60	3.46	0.01	1.07	0.03	1.10	0.28	0.03	0.31
BAAQMD Threshold (Annual)		10.00	10.00	NA	NA	NA	NA	15.00	NA	NA	10.00
Exceeds Threshold		No	No	NA	NA	NA	NA	No	NA	NA	No

Criteria Air Pollutant Emissions Summary - Operations

Annual emissions divided by 365 days/year to obtain average daily emissions.

Existing Land Use - Total AnnualEmission Rates 2022

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area Sources	0	0	0	0	0	0	0	0	0	0
Energy Use	0	0	0	0	0	0	0	0	0	0
Mobile Sources	0	0	1	0	0	0	0	0	0	0
Waste Generation	0	0	0	0	0	0	0	0	0	0
Water/Wastewater	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	0

Proprosed Project - Total AnnualEmission Rates 2022

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area Sources	3	0	0	0	0	0	0	0	0	0
Energy Use	0	2	1	0	0	0	0	0	0	0
Mobile Sources	2	2	18	0	6	0	6	2	0	2
Waste Generation	0	0	0	0	0	0	0	0	0	0
Water/Wastewater	0	0	0	0	0	0	0	0	0	0
Total	5	3	20	0	6	0	6	2	0	2

Net AnnualEmission Rates

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area Sources	3	0	0	0	0	0	0	0	0	0
Energy Use	0	2	1	0	0	0	0	0	0	0
Mobile Sources	2	2	18	0	6	0	6	2	0	2
Waste Generation	0	0	0	0	0	0	0	0	0	0
Water/Wastewater	0	0	0	0	0	0	0	0	0	0
Total	5	3	19	0	6	0	6	2	0	2
BAAQMD Threshold (Daily)	54	54	NA	NA	NA	NA	82	NA	NA	54
Exceeds Threshold	No	No	NA	NA	NA	NA	No	NA	NA	No

Greenhouse Gas Emissions Summary

Operation 2022

Existing Land Use - 2019

	MT/yr	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Area Sources		0	4.60E-04	4.60E-04	0.00E+00	0	0	0%
Energy Use		0	13.45	13.45	2.50E-04	2.40E-04	14	25%
Mobile Sources		0	33.66	33.66	1.40E-03	0	34	62%
Waste Generation		2.7749	0	2.7749	0.164	0	7	13%
Water/Wastewater		0.086	6.47E-03	0.0925	3.00E-04	1.90E-04	0	0%
Total		3	47	50	0	0	54	100%

Proposed Project - 2022

	MT/yr	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Area Sources		0	4.93E-03	4.93E-03	1.00E-05	0	0.01	0%
Energy Use		0	324.55	324.55	6.07E-03	5.80E-03	326	25%
Mobile Sources		0	860.63	860.63	2.74E-02	0	861	66%
Waste Generation		42.7337	0	42.7337	2.5255	0	106	8%
Water/Wastewater		2.7887	0.3247	3.1135	9.60E-03	6.06E-03	5	0%
Total		46	1186	1231	3	0	1,299	100%

Net Emission Rates from Proposed Project

	MT/yr	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Area Sources		0	0.00447	0.00447	0.00001	0	0.00	0%
Energy Use		0	311.0965	311.0965	0.00582	0.00556	313	25%
Mobile Sources		0	826.9781	826.9781	0.026	0	828	65%
Waste Generation		39.9588	0	39.9588	2.3615	0	99	8%
Water/Wastewater		2.7027	0.31823	3.021	0.0093	0.00587	5.0	0%
Amoritized Construction							28	2%
Total		**42.66**	**1138.397**	**1181.059**	**2.4026**	**0.01147**	**1,272**	**100%**

BAAQMD Threshold	**1,100**
Exceeds Threshold	**Yes**

Construction

Construction

Unmitigated	**Const.**
2020	454
2021	343
2022	41
Total Construction	838

30-Year Amortization	**28**
BAAQMD Threshold	**1100**
Exceeds Threshold	**No**