Comment Letters Received on the Initial Study

Comment Letter From	**Date**
Organizations and Individuals:	
A. Lozeau Drury LLP	March 30, 2018
B. Santa Clara Valley Transportation Authority	April 5, 2018
C. Santa Clara Valley Water District	April 5, 2018
D. Adams Broadwell Joseph & Cardozo	April 12, 2018

A. RESPONSES TO COMMENTS FROM LOZEAU DRURY LLP DATED MARCH 30, 2018:

COMMENT A-1: I am writing on behalf of the Laborers International Union of North America, Local Union 270 and its members living in Santa Clara County and the City of Santa Clara ("LIUNA"), regarding the 2305 Mission College Boulevard Data Center, PLN-2017-12535, CEQ2017-01034 and SCH2018032008, including all actions related or referring to the demolition of the current two-story 358,000 sf office/R&D building and development and construction of a two-story 495,610 sf data center building located at 2305 Mission College Boulevard on APN: 104-13-096 in the City of Santa Clara. ("Project").

We have prepared these comments with assistance from the expert consulting firm, Soil Water Air Protection Enterprise (SWAPE). Their expert comments are attached hereto and incorporated in their entirety. The expert comments establish a fair argument that the Project may have significant unmitigated impacts, including:

1. Significant unmitigated air quality impacts;
2. Significant unmitigated cancer risks:
3. Significant and unmitigated greenhouse gas impacts;

LIUNA requests that the City of Santa Clara ("City") withdraw the Initial Study/Mitigated Negative Declaration ("IS/MND") and instead prepare an environmental impact report ("EIR") for the Project, as there is substantial evidence that the Project will have significant unmitigated impacts on the environment as discussed below. An EIR is required to analyze these and other impacts and to adopt feasible mitigation measures to reduce the impacts to the extent feasible.

PROJECT DESCRIPTION. The Project seeks to demolish an existing 358,000 square foot office building and paved parking lot in order to develop a 495,610 square foot data center building. The data center building would house computer servers for private clients in a secure and environmentally controlled structure, and would be designed to provide 60 megawatts (MW) of information technology (IT) power. Standby backup emergency electrical generators would be installed to provide for an uninterrupted power supply. A total of 120 625-kW diesel-fueled engine generators would be located within a generator yard west of the data center building. The generators would provide 75 MW of backup power generation capacity. Additionally, the site will also construct a 90-megavolt amp electrical substation on-site and 75 parking stalls.

STANDING. Members of LIUNA live, work, and recreate in the vicinity of the Project site. These members will suffer the impacts of a poorly executed or inadequately mitigated Project, just as would the members of any nearby homeowners association, community group or environmental group. Hundreds of LIUNA members live and work in areas that will be affected by air pollution and traffic generated by the project. Therefore, LIUNA and its members have a direct interest in ensuring that

the Project is adequately analyzed and that its environmental and public health impacts are mitigated to the fullest extent feasible.

LEGAL STANDARD. As the California Supreme Court recently held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (Communities for a Better Environment v. South Coast Air Quality Management Dist. (2010) 48 Cal.4th 310, 319-320 ["CBE v. SCAQMD"], citing, No Oil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68, 75, 88; Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles (1982) 134 Cal.App.3d 491, 504–505.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (Communities for a Better Environment v. Calif. Resources Agency (2002) 103 Cal.App.4th 98, 109 ["CBE v. CRA"].)

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

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

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper only if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and…there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (Public Resources Code §§ 21064.5 and 21080(c)(2); Mejia v. City of Los Angeles (2005) 130 Cal.App.4th 322, 331.) In that context, "may" means a reasonable possibility of a significant effect on the environment. (Pub. Resources Code, §§ 21082.2(a), 21100, 21151(a); Pocket Protectors, 124 Cal.App.4th at 927; League for Protection of Oakland's etc. Historic Resources v. City of Oakland (1997) 52 Cal.App.4th 896, 904–905.)

Under the "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency's decision. (CEQA Guidelines, § 15064(f)(1); Pocket Protectors, 124 Cal.App.4th at 931; Stanislaus Audubon Society v. County of Stanislaus (1995) 33 Cal.App.4th 144,

150-15; Quail Botanical Gardens Found., Inc. v. City of Encinitas (1994) 29 Cal.App.4th 1597, 1602.) The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (Pocket Protectors, supra, 124 Cal.App.4th at 928.)

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

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

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

As a matter of law, "substantial evidence includes expert opinion." (Pub. Resources Code, § 21080(e)(1); CEQA Guidelines, § 15064(f)(5).) CEQA Guidelines demand that where experts have presented conflicting evidence on the extent of the environmental effects of a project, the agency must consider the environmental effects to be significant and prepare an EIR. (CEQA Guidelines § 15064(f)(5); Pub. Res. Code § 21080(e)(1); Pocket Protectors,124 Cal.App.4th at 935.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Resources Code, § 21068; see also CEQA Guidelines, § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (No Oil, Inc., 13 Cal.3d at 83.) In Pocket Protectors, the court explained how expert opinion is considered. The Court limited agencies and courts to weighing the admissibility of the evidence. (Pocket Protectors, 124 Cal.App.4th at 935.) In the context of reviewing a negative declaration, "neither the lead agency nor a court may 'weigh' conflicting substantial evidence to determine whether an EIR must be prepared in the first instance." (Id.) Where a disagreement arises regarding the validity of a negative declaration, the courts require an EIR. As the Court explained, "[i]t is the function of an EIR, not a negative declaration, to resolve conflicting claims, based on substantial evidence, as to the environmental effects of a project." (Id.)

DISCUSSION. A. The Project will have Significant Air Pollutant Emissions. The environmental consulting firm, Soil, Water, Air Protection Enterprise (SWAPE), concludes that the Project will have very significant air quality impacts, far above applicable CEQA significance thresholds set by the Bay Area Air Quality Management District (BAAQMD). In particular the *Project will create cancer risks more than twenty times above the Bay Area Air Quality Management District's (BAAQMD's) CEQA significance thresholds*, due largely to the close proximity of the Project to a residential neighborhood. The Project will also generate nitrogen oxides (NOx) and greenhouse gas (GHGs) far above significance thresholds. As such, an EIR is required to analyze these impacts, and to propose feasible mitigation measures and alternatives to reduce or eliminate the impacts.

Air districts' air quality thresholds are treated as dispositive in evaluating the significance of a project's air quality impacts. (See, e.g. Schenck v. County of Sonoma (2011) 198 Cal.App.4th 949,

960 (County applies BAAQMD's "published CEQA quantitative criteria" and "threshold level of cumulative significance"). See also Communities for a Better Environment v. California Resources Agency (2002) 103 Cal.App.4th 98, 110-111 ("A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant").) The California Supreme Court recently made clear the substantial importance that an air quality district significance threshold plays in providing substantial evidence of a significant adverse impact. (CBE v. SCAQMD, 48 Cal.4th at 327 ("As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact").)

Since there is a fair argument that the Project's air quality emissions exceed CEQA significance thresholds, an EIR is required to analyze and mitigate Project impacts.

> **RESPONSE A-1:** As discussed in the detailed responses below, the comment letter does not present substantial evidence supporting a fair argument that the project would result in significant unavoidable environmental impacts and, therefore, an EIR is not required for the project.

COMMENT A-2:

1. The Project Will Create Significant Cancer Risks in the Nearby Residential Community Due to Diesel Engine Exhaust

SWAPE concludes that the Project will create cancer risks in the nearby residential community more than twenty times above the BAAQMD'S CEQA significance threshold. The IS\MND erroneously concludes that the Project's cancer risks will be less than significant, but this is because the IS\MND fails to apply the proper cancer risk calculation methodology established by the California Office of Environmental Health Hazard Assessment ("OEHHA"), the California Air Resources Board (CARB) and by BAAQMD.

SWAPE conducts detailed calculations using OEHHA methodology and concludes, "the excess cancer risk over the course of a residential lifetime (30 years) at the MEIR is approximately 220 in one million." (SWAPE, p. 9 (emphasis added)). The BAAQMD significance threshold for cancer risk is 10 in one million. Therefore, the Project will create a cancer risk in the adjacent residential neighborhood more than 20 times above the CEQA significance threshold. An EIR is required to analyze this risk and propose feasible mitigation measures.

SWAPE suggests numerous mitigation measures that could reduce the Project's cancer risks, including requiring the use of low-emission construction equipment, advanced particulate filters for diesel generators, idling restrictions and many other measures. (SWAPE, pp. 9-14). However, since the IS\MND erroneously concludes there is no significant risk, it fails to impose these feasible measures.

> **RESPONSE A-2:** The air quality analysis conducted for the project (refer to Appendix A of the IS/MND) found that, without appropriate mitigation, the project would result in significant cancer risk at the nearby residential neighborhood (Impact AIR-3). This is because cancer risk from temporary construction activities would result in exposures to diesel particulate matter exhaust and if there are infants present, their lifetime cancer risk could increase by over 10 chances per million. The IS/MND identified appropriate mitigation (Mitigation Measure MM AIR-1) to reduce this impact to less than significant (i.e., lifetime cancer risk of less than 10 per million).

The Commenter had air quality modeling of the project conducted that did not include inputs reflective of the proposed project and concluded impacts would be much higher. In examining the exhibit to the comment letter (an analysis conducted by SWAPE), there are several flaws with their analysis. For example, the SWAPE CalEEMod modeling relied upon generic construction assumptions, no-specific design of the project and most of all, a screening model. The air quality analysis the City relied upon for the project relied upon refined modeling techniques, using the project-specific construction assumptions, project design, project-specific data regarding the generators and their emission rates and parameters (e.g., stack dimensions, exhaust exit velocities, exhaust temperature, etc.), building dimensions to account for plume downwash effects, and most importantly – the more sophisticated model, U.S. EPA's AERMOD dispersion model, which is recommended by the BAAQMD. That model uses historical meteorological data representative of the area. A discussion of the modeling is included in the air quality report.

SWAPE's use of generic modeling assumptions in CalEEMod and use of a screening model (AERSCREEN model) to describe the actual impacts of the facility are misleading. Screening models are typically used to identify whether or not a potential for adverse air quality impacts exists. As stated by SWAPE (p.7) "If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project." As explained above, a refined modeling approach using the AERMOD model was employed in the IS/MND, and the results are reflective of the actual proposed project, while it was not employed in SWAPE's comment letter. Therefore the comment letter's contentions are based on the incorrect model and not reflective of the actual project.

The commenter claims that the IS/MND erroneously concludes that the Project's cancer risks will be less than significant. It should be clarified that the IS/MND's air quality analysis found several impacts to be significant and identified mitigation measures that reduced these impacts to a less-than-significant level. These include:

> **Impact AIR-1** for construction period emissions, where NOx emissions from were found to be above the emission threshold and fugitive dust PM10 and PM2.5 emission may not be properly controlled. Standard required measures to properly control fugitive dust emissions of PM10 andPM2.5 were identified in the IS/MND along with mitigation measure **MM AIR-1**, which includes exhaust control measures to further reduce NOx and particulate matter emissions.
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> **Impact AIR-2** for operation, where NOx emissions from routine testing and maintenance running of generator engines combined with the building area and traffic emissions would exceed emission thresholds. Mitigation Measure **MM AIR-2** limits the number of hours testing can be conducted to less than the maximum 50 hours per engine allowable by BAAQMD and CARB.
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> **Impact AIR-3** for health risk impacts, where construction activities would cause significant cancer risk and annual PM2.5 exposure. Mitigation Measure **MM AIR-1**, along with standard required dust control measures, would reduce exhaust PM2.5 and fugitive PM2.5 emissions such that the cancer risk and the annual concentration of PM2.5 from project construction and operation would below the significance thresholds.

The commenter states that the analysis "fails to apply the proper cancer risk calculation methodology established by the California Office of Environmental Health Hazard Assessment ("OEHHA"), the California Air Resources Board (CARB) and by BAAQMD." However, this is an incorrect statement. The commenter does not provide any specific details

or justification for this statement. Attachment 3 of the air quality report (Appendix A of the IS/MND) includes a description of how the community risk methodology was correctly applied that includes parameters for computing cancer risk, consistent with current OEHHA and BAAQMD guidance. For these reasons, no fair argument has been made, given the comments reflect inaccurate default assumptions that don't reflect the actual project, and inapplicable methodology and modeling. The IS/MND used the correct project information and the appropriate refined modeling, while the commentor relied upon a preliminary screening model with default assumptions to produce inaccurate, misleading results that do not constitute substantial evidence in support of a fair argument the project would have significant, unmitigated health risks.

COMMENT A-3:

2. The Project will Have Significant Nitrogen Oxide (NOx) Impacts.

SWAPE concludes that the Project will generate significant nitrogen oxides (NOx) emissions, above the BAAQMD'S CEQA significance thresholds. NOx reacts in the atmosphere to create ground-level ozone. US EPA states that ozone has serious adverse health impacts:

> Ozone in the air we breathe can harm our health. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from ozone exposure.
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> Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care.

SWAPE concludes that the Project will generate 268 pounds per day (ppd) of NOx – almost five times above the BAAQMD CEQA significance threshold of 54 ppd.

Mitigated Maximum Daily Construction Emissions (lbs/day)	
Model	**NO_x**
IS/MND	51
SWAPE	268
Percent Increase	**425%**
BAAQMD Regional Threshold (lbs/day)	**54**
Exceed?	***Yes***

The IS/MND concludes that the Project will generate 51 ppd of NOx – slightly below the significance threshold. However, SWAPE notes that the IS/MND made unauthorized adjustments and manipulated the air quality model without proper justification.

Most obviously, the model inputs supporting the IS/MND assumed that the Project size would be 400,000 square feet, but the actual Project size will be 495,610 square feet. This error alone understates Project emissions by 25%. The IS/MND makes several other errors, such as underestimating truck trip length by half or more, underestimating construction equipment usage by half, as well as several other obvious errors. None of these adjustments to the standard CalEEMod model are justified in the Initial Study.

When SWAPE corrected these errors, and conducted calculations in accordance with the required CalEEMod parameters, Project emissions increased to 268 ppd of NOx – far above the BAAQMD's 54 ppd CEQA significance threshold. An EIR is required to analyze the Project's NOx impacts and to propose feasible mitigation measures. SWAPE proposes numerous mitigation measures to reduce NOx impacts. None of these are analyzed since the City prepared an IS/MND rather than an EIR.

RESPONSE A-3: The CalEEMod modeling completed for the project forms the basis of the prediction of construction period emissions and operational-period, non-stationary sources, emissions. The CalEEMod modeling results were used to develop mitigation measures to reduce construction period emissions of nitrogen oxides (NOx), diesel particulate matter (DPM) exhaust and fine particulate matter emissions. The mitigation measures are intended to reduce average daily construction period NOx emissions below the emission-based threshold used by the City and reduce construction period health risks (in terms of increased lifetime cancer risk to potential infants residing near the project).

The CalEEMod modeling was based on specific construction information requested for this project that included the schedule for different construction phases, equipment usage inputs (in terms of the types, quantity, number of days and hours per day that equipment would be used), estimates of demolition material, estimates of soil to be imported and exported, estimates of cement deliveries, and estimates of asphalt delivery. These construction activity inputs were provided by the applicant's construction engineer. Use of these inputs increase the accuracy of the model rather than relying on model defaults for the most similar land use in the model's limited selection of land use types. To account for project-specific construction activity, the model was adjusted to include this information (see Attachment 1 for a more detailed discussion of adjustments to the model). This means the actual proposed project was modeled in the IS/MND, as opposed to a series of default assumptions that do not correctly reflect the project that the comment relies upon to reach incorrect, overstated results.

The provided construction worksheet erroneously included an incorrect square footage for the project building size of 400,000 square feet. This was entered into the CalEEMod model. Many of the comments regarding air quality are related to a claim that emissions were underestimated because the project building square footage is incorrect. However, the construction assumptions provided and used in the air quality modeling were based on the actual proposed project size of 495,600 square feet.[1] The size of the project entered in the provided worksheet was a typographical error. The construction emission estimates from the CalEEMod modeling are based primarily on the specific project inputs provided and not the incorrectly entered size of the project. The CalEEMod modeling was revised to reflect the actual project building size and included the same schedule and assumptions that were previously provided. The revised modeling produced essentially the same results (see Attachment 1). The change in building size may have affected the outcome if the analysis relied on CalEEMod to set default assumptions for construction activity. This analysis used more accurate project-specific information that reflects the project setting, unique type of building and project schedule.

The IS/MND found that the project would generate significant NOx emissions, both during construction and operation. As discussed in Response A-2, above, mitigation measures to reduce these emissions were identified and the subsequent analysis of those mitigation measures determined that the emissions would be reduced to a level of less than significant (i.e., emissions of NOx below the significance threshold).

[1] Ben Finney, Skanska USA Building, Inc. Email Communication. April 4, 2018.

The comment regarding the higher NOx modeling is based on the commenter's consultants CalEEMod modeling of construction activities that did not use the project-specific construction assumptions and computed the maximum daily emission rate. In fact, the commenter's consultant developed a scenario that does not represent either the CalEEMod default conditions or the proposed project conditions. Essentially, the commentor's purported model results reflect a different project than what is proposed, and their conclusions about significant NOx emissions reflect a different project. Utilizing the correct project inputs would yield model results consistent with what was disclosed in the IS/MND. The construction period emissions threshold used by the City is based on the "average daily" emissions, which were computed and reported in the IS/MND.

COMMENT A-4:

3. The Project Will Have Significant Greenhouse Gas Impacts

SWAPE concludes that the Project will generate greenhouse gases (GHGs) emissions of 2,513 metric tons per year, more than double the BAAQMD CEQA significance threshold of 1,100 metric tons (MT/yr).per year. (SWAPE p. 19).

Estimated Annual Greenhouse Gas Emissions	
Emission Source	**Proposed Project (MT CO_2E/year)**
Construction (Amortized)	62.79
Area	0.01
Energy	1,751
Mobile	80.45
Waste	309.06
Water	310.58
Total	2,513
BAAQMD Significance Threshold	1,100
Exceed?	***Yes***

The IS/MND concludes that the Project would have less than significant GHG emissions, but conducts no calculations at all. In other words, there is no substantial evidence to support the IS/MND's conclusion of less than significant impacts. The IS/MND merely states that the Project, "would not conflict with the Santa Clara Climate Action Plan or other plans, policies or regulations adopted for the purpose of reducing the emissions of GHG" (IS/MND p. 70). However, without any calculations, there is no way to determine if the Project would exceed the 1,100 MT/yr threshold.

SWAPE conducted calculations using standard methodologies, and concluded that the Project will generate GHGs at levels more than double the BAAQMD CEQA significance threshold. As such, and EIR is required to analyze the Project's GHG impacts and to propose feasible mitigation measures.

SWAPE proposes numerous feasible mitigation measures, none of which are analyzed in the IS/MND. An EIR should be prepared to analyze and implement these and other GHG mitigation measures.

RESPONSE A-4: As described in Section 4.7.2 of the Initial Study, per Section 15064.4 of the CEQA Guidelines, a lead agency may analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions that has been adopted in a public process following environmental review. A lead agency is not obligated to quantify a project's emissions and compare those emissions to the BAAQMD 'brightline' threshold of 1,100 MT/yr, particularly when a lead agency has a qualified Climate Action Plan (CAP), i.e. Greenhouse Gas Reduction Strategy, that encompasses a project. The City of Santa Clara

adopted its CAP (a qualified greenhouse gas reduction strategy) in 2013 in conformance with its most recent General Plan Update. The City's projected emissions and the CAP are consistent with measures necessary to meet statewide 2020 goals established by AB 32 and addressed in the Climate Change Scoping Plan. The threshold of significance for whether a development project in the City of Santa Clara would generate greenhouse gas emissions that would have a significant impact on the environment, therefore, is a qualitative matter, i.e. whether or not the project conforms to the applicable reduction measures in the City's CAP. No quantification of emissions is required to determine consistency with the City's CAP, and the commentor's use of the BAAQMD 1,100 MT/yr brightline threshold is misplaced, as that is the standard BAAQMD recommends in the absence of a qualified CAP, which is not the case here. Additionally, section 15064.4(a)(2) of the CEQA Guidelines states that a Lead Agency shall have discretion to determine whether to quantify greenhouse gas emissions or "(r)ely on a qualitative analysis or performance based standards." For these reasons, the City's determination of the project's consistency with the CAP is an adequate threshold for determining the project's impacts, and the mere fact that project emissions exceed 1,100 MT/yr is not an indication the project's GHG emissions are cumulatively considerable given that the project's GHG emissions are accounted for in the qualified CAP and the project will comply with applicable reduction measures contained in the CAP.

COMMENT A-5: In addition, the IS/MND relies on deferred mitigation for GHG impacts. The IS/MND lists measures that "could be included as part of the TDM Plan to reduce vehicle trips by 10 percent consistent with the City's CAP (Climate Action Plan)" (p. 67). However, the IS/MND fails to include these measures as mitigation or as a Project Design Feature (PDF). Therefore the Project is not consistent with the CAP. Also, it relies for mitigation on measures that are not set forth in the IS/MND and not required as mitigation measures. CEQA prohibits this type of "deferred mitigation."

> "A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA." (Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 307.)
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> "[R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment." (Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 92.)

The IS/MND relies on such "tentative plans for future mitigation" that were rejected the cases of Sundstrom and CBE v. Richmond. As such, the IS/MND fails to comply with CEQA. Also, since the IS/MND does not impose binding Transportation Demand Management (TDM) measures, it is not consistent with the Climate Action Plan. A new document must be prepared setting forth specific mitigation measures that will be implemented.

RESPONSE A-5: The City's CAP requires the project to implement a TDM Plan to reduce vehicle trips, and this requirement will be included as a condition of approval of the project. The TDM Plan requirement is not mitigation for a significant impact, but is instead an action required by an existing City policy. The CAP does not require the project to develop the final TDM Plan prior to project approval. The IS/MND lists measures that could be included in the final TDM Plan to achieve the required trip reduction. It should be noted emissions from vehicle trips represent a small portion of the project's overall emissions.

COMMENT A-6: For the foregoing reasons, the IS/MND for the Project should be withdrawn. An EIR should be prepared and the draft EIR should be circulated for public review and comment in accordance with CEQA. An EIR is necessary to analyze the Projects significant adverse impacts on, cancer risk, ozone precursors (NOx), and greenhouse gases. The EIR must propose all feasible mitigation measures and alternatives to reduce the Project's significant impacts. Thank you for considering our comments.

RESPONSE A-6: As discussed in the detailed responses above, the comment letter does not present substantial evidence supporting a fair argument that the project, had it been correctly reflected in the model inputs, and employing the correct model, would result in significant environmental impacts after applying feasible mitigation included in the project and, therefore, an EIR is not required for the project. The project's GHG emissions have been accounted for in the City's CAP, which has previously undergone CEQA review, which was not challenged and now presumed adequate.

B. RESPONSES TO COMMENTS FROM THE SANTA CLARA VALLEY TRANSPORTATION AUTHORITY, DATED APRIL 5, 2018:

COMMENT B-1: Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Initial Study for a 495,610-square foot data center at 2305 Mission College Boulevard. We have the following comments.

Transit Passenger Facilities

VTA has an existing bus stop on westbound Mission College Boulevard, west of Burton Drive, located on the site's southern frontage. VTA supports the plan to widen the sidewalk at the bus stop to 8 feet minimum. Additionally, VTA recommends the City and the project application coordinate with VTA on potentially including amenities such as a bus shelter and real-time transit information.

As part of the VTA 2018-2019 Transit Service Plan, there will be a new bus route (Line 20) operating on Agnew Road. VTA recommends the City and the project applicant coordinate with VTA of potentially adding a new bus stop on the site's northern frontage. This new bus stop should be constructed to VTA standards and include amenities such as a bus shelter, bus pavement pad, pedestrian lighting and real-time transit information. Not only would this bus stop service the project site and the immediate surrounding area, there is also high-ridership potential from California's Great America employees and users of the San Tomas Aquino Creek Trail.

> **RESPONSE B-1:** The VTA's recommendations are acknowledged and will be considered by the decision makers. As the comment does not pertain to the conclusions of the IS/MND, no further response is required.

C. RESPONSES TO COMMENTS FROM THE SANTA CLARA VALLEY WATER DISTRICT, DATED APRIL 5, 2018:

COMMENT C-1: The Santa Clara Valley Water District (District) has reviewed the Initial Study and Mitigated Negative Declaration (IS/MND) for the 2305 Mission College Boulevard Data Center Project, received on March 2, 2018.

The proposed site is located adjacent to District fee title property and San Tomas Aquino Creek. The District does not have any land rights or facilities located within the project site; however, it is unclear if any work is proposed on the adjacent District property along San Tomas Aquino Creek. If any activity is required on District property to facilitate the proposed work on the site, project proponent must obtain a District encroachment permit in accordance with our Water Resources Protection Ordinance.

RESPONSE C-1: The project does not propose construction activities or construction staging on the adjacent District property along San Tomas Aquino Creek; therefore, an encroachment permit is not necessary.

COMMENT C-2: The District has the following comments on the subject IS/MND document:

1. Figure 3.0-4, Landscape Plan, appears to show removal of trees from District property. No trees should be removed from District property and the plans should clearly show the property line. The landscape plan also appears to show sidewalk improvements and landscaping that may impact the District maintenance road driveway. The District would like to review the landscape plans to ensure the proposed landscaping doesn't impact District operations.

RESPONSE C-2: The comment is correct that Figure 3.0-4 show trees to be removed on the District property and proposed landscaping near the entrance to the District's maintenance road. No trees will be removed from the District property without approval from the District, and the landscape plan will be revised accordingly prior to final approval. The applicant will coordinate with the District regarding any requests to remove trees on the adjacent District property. As the comment does not pertain to the conclusions of the IS/MND, no further response is required.

COMMENT C-3:

2. Page 42, Section 4.4.1.1 incorrectly notes that the District issues encroachment permits for any work within 50 feet of any water course. This is a reference to a prior ordinance. The District currently issues encroachment permits under the Water Resources Protection Ordinance, which requires permits for work on District property and easements.

RESPONSE C-3: See *Revisions to the Text of the Initial Study* for changes made in reference to encroachment permit issuance, as suggested by the comment.

COMMENT C-4:

3. The District appreciates the water use efficiency measures that are outlined in the IS/MND. However, it is unclear why recycled water use is only proposed for landscape irrigation and not other nonpotable water uses, including cooling and toilet flushing. Additional recycled water use would offset the increase in potable water demand associated with the project.

RESPONSE C-4: As described in the IS/MND, a Water Supply Assessment was completed for the project which determined that the project's water demand would not result in significant impacts related to water supply. The applicant is not required by City Code to utilize recycled water for uses other than landscape irrigation.

COMMENT C-5:

4. Page 80, Section 4.9.1.1 states that the project is located in a subwatershed or catchment area that is greater than or equal to 65% impervious. Based on the City of Santa Clara Hydromodification Management Plan applicability map, this site is located within a catchment draining to hardened channel and/or tidal area, not areas of more than 65% , imperviousness.

   RESPONSE C-5: See *Revisions to the Text of the Initial Study* for changes made, as suggested by the comment. The end result remains the site is exempt from HMP requirements of the MRP.

COMMENT C-6:

5. Page 81, Section 4.9.1.1 Impaired Surface Water Bodies and page 85, Post-construction Water Quality Impacts Section, both refer to Guadalupe River, however, the site drains to San Tomas Aquino Creek. Discussion in these sections should refer to San Tomas Aquino Creek.

   RESPONSE C-6: See *Revisions to the Text of the Initial Study* for changes made, as suggested by the comment.

COMMENT C-7:

6. Page 81, Section 4.9.1.2 notes that the site is located in zones X and AH with an existing elevation of approximately 27 feet above mean sea level; however, the FEMA FIRM Panel 06085C0064H dated May 18, 2009 shows that the project located in zones X (shaded) and AH with an elevation of 23 feet (NAVD88). Please check the datum and clarify the inconsistencies in elevations. Page 81 should also note that the zone AH is a Special Flood Hazard Area.

   RESPONSE C-7: The text identifying site elevation has been corrected to state the site is 23 feet above mean sea level, and additional text has been included to identify the site as being mapped within a Special Flood Hazard Area (see *Revisions to the Text of the Initial Study*), as suggested by the comment. This revision does not affect the analysis of flood impacts in the IS/MND.

COMMENT C-8:

7. Pages 83 and 84, Section 4.9.2.1 Dam Inundation Hazards, should also note that the site is subject to inundation from Leniham Dam on Lexington Reservoir in addition to Anderson Dam.

   RESPONSE C-8: See *Revisions to the Text of the Initial Study* for changes made, as suggested by the comment.

COMMENT C-9:

8. The Water Supply Assessment states that the 2012 Groundwater Management Plan is the most recently adopted plan. The District adopted an updated Groundwater Management Plan in 2016. The District requests that the City provide us with the opportunity to review and comment on future Water Supply Assessments before they are adopted by the City Council.

   RESPONSE C-9: The comment is acknowledged and will be provided to the decision makers for further consideration. No further response is required.

D. RESPONSES TO COMMENTS FROM ADAMS BROADWELL JOSEPH & CARDOZO, DATED APRIL 12, 2018:

COMMENT D-1: We are writing on behalf of California Unions for Reliable Energy ("CURE") to provide comments on the Initial Study and proposed Mitigated Negative Declaration ("IS/MND") prepared by the City of Santa Clara ("City") for the 2305 Mission College Boulevard Data Center Project ("Project"). The 15.7-acre Project site is located at 2305 Mission College Boulevard in the City of Santa Clara. The site is currently occupied by a two-story 358,000 square-foot office building and parking lot. PR III 2305 Mission College Boulevard, LLC ("Applicant") is proposing to demolish the existing development to construct a 495,610 square-foot data center facility, including a generator yard, equipment yard, underground storage, and parking. The Project will include a total of 120 diesel-fueled engine generators to provide 75 megawatts ("MW") of backup power generation capacity and a new 90 megavolt amps electrical substation.

Based on our review of the IS/MND, we conclude that the document fails to comply with the requirements of the California Environmental Quality Act ("CEQA"). First, as explained more fully below, the IS/MND fails to adequately describe several elements of the Project and a result fails to disclose information that is necessary to meaningfully assess the impacts that the Project may have on human health and the environment. Additionally, the IS/MND fails to identify all of the Project's potentially significant impacts and to propose mitigation to avoid or lessen impacts to a less than significant level. As explained in these comments, there is more than a fair argument that the Project will cause significant air quality and noise impacts. Furthermore, substantial evidence supports a fair argument that the Project's greenhouse gas ("GHG") emissions will result in a cumulatively considerable contribution to global climate change and are therefore significant. For each of these reasons, the City cannot approve the Project until an Environmental Impact Report ("EIR") is prepared that adequately discloses and analyzes the Project's potentially significant impacts and incorporates all feasible mitigation to avoid or lessen these impacts.

Finally, as discussed in Section X below, because the Project includes a thermal powerplant component exceeding 50 MW, the City cannot approve the Project until the California Energy Commission issues a certification or exemption pursuant to its exclusive powerplant siting authority.

These comments were prepared with the assistance of technical expert Dr. Phyllis Fox, Ph.D, CEQ, PE, DEE. Dr. Fox's technical comments and curriculum vitae are attached to this letter as Attachment 1 and are submitted to the City in addition to the comments contained herein.

I. Statement of Interest

These comments are submitted on behalf of CURE. CURE is a coalition of labor organizations whose members construct, operate, and maintain powerplants and other industrial facilities throughout California. CURE encourages sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited water resources, causes air and water pollution, and imposes other stresses on the environmental carrying capacity of the State. Environmental degradation also jeopardizes future jobs by making it more difficult and expensive for industry to expand in Santa Clara, and by making it less desirable for businesses to locate and for people to live and recreate in the area. Continued environmental degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities for CURE's participating organizations and their members. CURE therefore has a direct interest in enforcing environmental laws and minimizing project impacts that would degrade the environment.

CURE's participating organizations and their members also live, recreate, work, and raise families in the City of Santa Clara and Santa Clara County. Thus, CURE, its participating organizations and their members stand to be directly affected by the Project's adverse environmental and health impacts. Members may also work on the Project itself, and would therefore be first in line to be exposed to any health and safety hazards that the Project may create.

II. Applicable Legal Standard

The California Environmental Quality Act ("CEQA") has two basic purposes, neither of which the IS/MND satisfies in this case.

First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. In the context of CEQA, "environment" means the physical conditions that exist within the affected area and include land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance. Under CEQA and the CEQA Guidelines, if a project is not exempt and may cause a significant effect on the environment, the lead agency must prepare an EIR.

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and the implementation of all feasible mitigation measures. If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns."

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in certain limited circumstances. The EIR is the heart of CEQA and has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."[9] An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project *may* have a significant effect on the environment." The EIR aids an agency in identifying, disclosing, analyzing, and, to the extent possible, avoiding a project's significant environmental effects through implementing feasible mitigation measures.

In certain limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement indicating that a project will have no significant impact. However, because "[t]he adoption of a negative declaration has a terminal effect on the environmental review process" by allowing the agency to dispense with the duty to prepare an EIR, negative declarations are allowed only in cases where there is not even a "fair argument" that the project will have a significant environmental effect.

In some circumstances, a project with potentially significant impacts can be modified by the adoption of mitigation measures to reduce the impacts to a level of insignificance. In such cases, an agency may satisfy its CEQA obligations by preparing a mitigated negative declaration. However, a mitigated negative declaration is also subject to the same "fair argument" standard. Thus, an EIR is required whenever substantial evidence in the record supports a "fair argument" that significant impacts may occur as a result of the project even with the imposition of mitigation measures.

CEQA contains a strong presumption in favor of requiring a lead agency to prepare an EIR. The "fair argument" standard reflects this presumption. The fair argument standard is an exceptionally low threshold favoring environmental review in an EIR rather than a negative declaration. As noted above, this standard requires preparation of an EIR if any substantial evidence in the record indicates that a project may have an adverse environmental effect. As a matter of law, substantial evidence

includes both expert and lay opinion based on fact. Even if other substantial evidence supports a different conclusion, the agency nevertheless must prepare an EIR.

With respect to the Project at hand, the IS/MND fails to satisfy either of CEQA's two most fundamental purposes. First, the IS/MND lacks critical information on several elements of the Project and thereby fails to inform the public and decisionmakers of the Project's potentially significant impacts on the environment and human health. Second, substantial evidence demonstrates that the Project may cause significant noise, air quality, and GHG-related impacts, and the IS/MND fails to include sufficient measures to avoid or lessen these impacts to less than significant level. CEQA requires that these impacts be analyzed in an EIR in order to inform the public and decisionmakers of the potential impacts from the Project, to consider alternatives, and to identify and incorporate mitigation measures to reduce these and other harmful impacts.

> **RESPONSE D-1:** As discussed in the detailed responses below, the IS/MND accurately and adequately describes the project, and the comment letter does not present substantial evidence supporting a fair argument that the project would result in significant unavoidable environmental impacts. Therefore, an EIR is not required for the project.

COMMENT D-2:

III. The IS/MND Fails to Describe Critical Project Components and IS Inadequate As An Informational Document

The IS/MND first violates CEQA because it fails to adequately describe several components of the Project, including the Project's aboveground storage tanks and batteries. The IS/MND also fails to disclose information on the Project's anticipated electricity usage. The omission of this information renders the IS/MND inconsistent with CEQA's fundamental purpose of disclosure and inadequate as an informational document. It also prevents full consideration of the Project's potentially significant environmental impacts.

CEQA requires that before a negative declaration can be issued, the initial study must "provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment." Here, as Dr. Fox's comments explain, the IS/MND's failure to disclose information on several critical components of the Project makes it impossible for the public and decisionmakers to meaningfully evaluate the potential environmental impacts of the Project, to identify the required mitigation, and to assess the effectiveness of the mitigation measures proposed.

First, the IS/MND states that the Project will include twenty-four (24) 10,000-gallon aboveground diesel fuel storage tanks. However, the IS/MND glosses over potential impacts from these storage tanks, and offers no analysis to support its conclusion that hazardous materials and air quality impacts will be less than significant. The IS/MND indicates that "there would be minor evaporative emissions of ROG" (reactive organic gases) from the aboveground storage tanks, but its discussion of the emissions is a single sentence that "emissions of ROG from fuel storage are expected to be negligible." The IS/MND does not describe the type of diesel storage tanks to be used in the Project beyond stating that they will be double-walled tanks. As Dr. Fox notes, information on tank type, such as floating or fixed roof, is critical because ROG emissions from diesel storage tanks may vary, particularly on hot weather days.

Furthermore, ROG emissions would occur during the transfer of diesel into the storage tanks. The IS/MND does not disclose fuel transfers as a source of emissions. There is no information on how or how often diesel fuel will be delivered and transferred to the storage tanks, no discussion of the

related potential impacts, and no discussion of what measures will be implemented to avoid such impacts from occurring.

RESPONSE D-2: The project would use twenty-four 10,000 gallon diesel storage tanks. With each tank serving 5 emergency generators. The tanks would be located under each block of five generators and would be of a horizontal rectangular configuration with dimensions of about five feet high, 11 feet wide and 25 feet long. Based on the engine specifications the diesel fuel use at 100 percent load is 41 gallons/hour. At 50 hours per year this gives 2,050 gallons/year/engine. For each block of five generators (one 10,000 gallon tank) the fuel use would be 10,250 gallons. Each tank would require refilling roughly once per year.

The IS/MND air quality analysis did not quantify these emissions because they are considered too small to substantially contribute to project emissions. Diesel fuel has a low volatility, and therefore, evaporative emissions are low. To further emphasize this, emissions were roughly computed for the purposes of responding to this comment. Using the U.S. EPA Tanks 4.09d emissions model for storage tank emissions, annual ROG emissions from a 10,000 gallon fixed roof horizontal tank located in the San Francisco Bay Area were calculated. The annual emissions from one tank using 10,000 gallons per year would be 4.98 pounds per year. These emission calculations include emissions associated with "breathing" and "working loss". The working loss emissions are from tank filling. The total ROG emissions from 24 storage tanks would be roughly 120 pounds per year. These emissions are considered negligible.

COMMENT D-3: Second, the IS/MND mentions that backup battery equipment will be located in a separate equipment yard in the northern portion of the Project site. However, with the exception of a few brief sentences indicating that batteries will be used in the Project, there is no explanation of what purpose the batteries will serve, or the potential impacts associated with large scale battery usage. Batteries can result in significant environmental and safety impacts depending on the type and arrangement of the batteries and their particular chemical makeup. For example, it is widely known that lithium ion batteries pose serious and unique fire fighting challenges. Water is a poor retardant due to the chemicals present in lithium ion batteries, and facility layout may prevent adequate fire-fighting access. Additionally, battery transport, use, and disposal may result in hazardous materials impacts which are compounded by the Project site's proximity to residences, places of work, and major roadways. None of these potential impacts are disclosed or evaluated in the IS/MND.

RESPONSE D-3: The backup batteries would serve to provide backup electricity in the event of a power outage. As described in the IS/MND, the proposed project has been reviewed by the City of Santa Clara Fire Department to ensure adequate fire safety and suppression. The project would be constructed in conformance with current codes, including features that would reduce potential fire hazards. The site design is consistent with regulatory requirements for fire truck access. The transport, use, and disposal of batteries, including lithium ion batteries, is governed by various regulations, including Title 49 of the Code of Federal Regulations (49 CFR 173.185), which places requirements on the design, packaging, and transport of lithium ion batteries. The project would be required to comply with all relevant regulations related to lithium ion batteries. Compliance with existing regulations would ensure hazards associated with the project's lithium ion batteries would be less than significant. A more detailed discussion of batteries has been added to the IS/MND (see *Revisions to the Text of the Initial Study*).

COMMENT D-4: Third, the IS/MND fails to disclose the Project's anticipated electricity usage. According to the IS/MND, "[t]he primary function of the data center is to house computer servers,

which require electricity and cooling 24 hours a day to operate." With 60 MW of "information technology power" and supporting equipment operating 24 hours a day, it is likely the Project's electricity demand is substantial. And while it may be assumed that the anticipated electricity usage is at least 75MW based on the Project's backup generating capacity, it is never stated that the backup generators would provide the equivalent amount of electricity needed for operations in a daily, non-emergency scenario. As discussed further below, the Project's substantial electricity demand will contribute to Project emissions as result of power generation, particularly GHGs. These emissions are an environmental effect resulting from the Project. Without disclosing the Project's total energy demand, it is impossible to meaningfully evaluate the MND's analysis of Project emissions and to determine whether the City's conclusions are supported by substantial evidence.

In the absence of the above information on the Project's diesel storage tanks, batteries, and electricity usage, the IS/MND's project description is inadequate. Moreover, the IS/MND does not provide a sufficient factual basis, or substantial evidence, to support a determination that hazardous materials, air quality, and GHG impacts resulting from the Project will be less than significant. The City must disclose this information so that the public and decisionmakers can assess all of the Project's potentially significant impacts and ensure that the Project impacts are mitigated to a less than significant level.

RESPONSE D-4: As described in the IS/MND, the proposed data center would have a maximum information technology (IT) power demand of 60 MW at any given time, which represents the vast majority of electrical demand associated with the project. Using the project's Power Usage Effectiveness (PUE), which is a metric used to compare the efficiency of facilities that house computer servers, it is possible to determine the additional electricity demand associated with non-IT building functions. PUE is equal to the total energy consumption of a data center divided by the energy consumption used for the IT equipment. The ideal PUE is 1.0, where all power drawn by the facility goes to the IT infrastructure. The proposed data center would have a PUE of 1.09, meaning that for every 1.0 MW of IT demand, other building functions would have .09 MW of demand. Applying this factor to the project's maximum IT demand, the project would have a maximum electrical demand of 65.4 MW at any given time.

The comment does not indicate that a significant impact would occur due to the project's electricity usage, other than suggesting it would contribute to the project's emissions, particularly GHGs. As described in the IS/MND, the project is consistent with the City's Climate Action Plan, which specifically takes into account the efficiency of a proposed data center projects, and would not result in significant GHG impacts beyond those already disclosed and addressed when the City's CAP underwent CEQA review, which was not challenged and therefore now presumed adequate.

COMMENT D-5:

IV. Substantial Evidence Supports A Fair Argument That The Project's Greenhouse Gas Emissions May Be Significant

A. The IS/MND Consistency Analysis Does Not Establish the Project's GHG Emissions Would Be Less Than Significant

The IS/MND concludes that the Project's GHG emissions would not have a significant impact on the environment because the Project is consistent with the City of Santa Clara Climate Action Plan ("CAP") and other plans, policies, and regulations adopted for the purpose of reducing GHG emissions. However, as explained more fully below, the IS/MND fails to establish that the Project's consistency with these plans and programs will ensure that the Project's contribution to global

climate change is not cumulatively considerable. Furthermore, by relying on a qualitative consistency analysis, rather than calculating the Project's emissions, the IS/MND fails to disclose to the public significant GHG emissions that will result from the Project's energy usage. This approach conflicts with CEQA Guidelines section 15064.4(a), which instructs lead agencies to "make a good-faith effort to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."

As Dr. Fox's comments demonstrate, substantial evidence supports a fair argument that the Project's GHG emissions may be significant notwithstanding the Project's consistency with the Santa Clara CAP, General Plan, and other state and regional reduction programs. Accordingly, the City must prepare an EIR to disclose, analyze, and mitigate the Project's GHG emissions.

1. Consistency with the CAP and General Plan Does Not Support a Determination that GHG Emissions Would Be Less Than Significant

The CEQA Guidelines provide that a lead agency may analyze and mitigate GHG emissions resulting from certain activities in a defined geographic area in a qualified plan for the reduction of GHG emissions. Lead agencies may then tier from or incorporate the analysis and mitigation contained in a GHG reduction plan when considering individual projects within the plan's scope. If the lead agency determines that an individual project is consistent with an adopted GHG reduction plan, it may be presumed that the Project's incremental contribution to climate change would be less than cumulatively considerable, or less than significant.

CEQA Guidelines section 15064 specifies how to demonstrate consistency with a greenhouse gas reduction plan. That section states: "When relying on a plan, regulation or program [for the reduction of GHG emissions], the lead agency should explain how implementing the plan, regulation or program ensures that the project's incremental contribution to the cumulative effect is not cumulatively considerable." Additionally, the consistency analysis "must identify those requirements specified in the plan that apply to the project, and if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project." However, "[i]f there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project."

Here, the IS/MND considers the Project's consistency with the CAP and General Plan as its threshold of significance. First, the IS/MND considers whether or not the Project "conforms to the applicable reduction measures in the City's CAP." The IS/MND also considers the Project's consistency with relevant provisions of the City of Santa Clara General Plan. The CAP, which was adopted in 2013 and is now part of the City's General Plan, is a qualified GHG reduction plan for purposes of CEQA. The CAP identifies a series of measures intended to ensure the City "achieve[s] it fair share of statewide emissions reductions for the 2020 timeframe consistent with AB 32, the Global Warming Solutions Act." As directed by the CEQA Guidelines, the IS/MND includes a section outlining the applicable CAP and General Plan provisions. The IS/MND then briefly describes how these measures apply to the Project. On this basis, the IS/MND concludes that the Project is consistent with the CAP and General Plan and therefore its GHG emissions will be less than significant.

The IS/MND's conclusion that the Project will not result in significant GHG impacts because it is consistent with the City's CAP is not supported by substantial evidence for two reasons. First, because the CAP was adopted to achieve 2020 emissions reduction targets, consistency with the CAP does not support a determination that impacts will be less than significant beyond that year. Since the CAP was adopted, the state of California has adopted a more aggressive GHG emissions reduction

target of 40 percent below 1990 levels by 2030. This target was set in accordance with the latest scientific evidence regarding the degree of reduction needed to avoid further contributing to the devastating impacts of climate change. As the City's CAP pre-dates the latest standards and scientific data, compliance with its measures alone does not provide substantial evidence that the Project's GHG impacts would be less than significant during the Project's operational life.

CEQA requires that lead agencies consider the long term impacts of projects with long term operations, particularly in the context of GHG emissions. As we approach the year 2020, the California Supreme Court and has counseled against relying on consistency with 2020 targets to evaluate the impacts of long term projects. In Center for Biological Diversity v. Department of Fish and Wildlife, the California Supreme Court explained that, "over time consistency with year 2020 goals will become a less definitive guide, especially for long-term projects that will not begin operations for several years. An EIR taking a goal-consistency approach to CEQA significance may in the near future need to consider the project's effects on meeting longer term emissions reduction targets." Here, this passage is particularly relevant as it is likely the Project will not even commence operations prior to 2020. In short, the fact that the Project will not interfere with, or is consistent with, achieving the City's 2020 GHG reduction targets tells the public and decisionmakers little, if anything, about the significance of the Project's GHG emissions during the course of its entire operational life.

Second, as Dr. Fox's comments further explain, the majority of the applicable CAP and General Plan measures listed in the IS/MND do not even address the Project's primary source of GHGs. For example, with regard to transportation-related GHG emissions, the CAP requires that the project achieve "a 25 percent vehicle miles traveled (VMT) reduction, with 10 percent coming from [transportation demand program] measures." However, as Dr. Fox comments demonstrate, transportation-related emissions make up just .043% of the Project's overall GHG-emissions. Thus, the fact that the Project is "consistent" with the CAP in this area does little to reduce the Project's GHG emissions.

The same holds true for the CAP's water conservation measures, waste reduction measures, and off-road equipment requirements. According to the IS/MND, these three categories make up the remainder of the CAP measures applicable to the Project. For each, the IS/MND provides a brief paragraph indicating that the Project is consistent. However, two of the three (waste reduction and off-road equipment) only apply to Project construction. For the third, water conservation, the IS/MND does not explain the effect these measures will have on the Project's operational GHG emissions. The McLaren Data Center IS/MND showed that approximately 99% of that project's operational GHG emissions were the result of the data center energy demand, with slightly less than half a percent attributable to vehicle travel. Thus, even assuming water usage was responsible for the remaining emissions, water conservation measures, while important, will do very little to reduce the Project's total GHG emissions.

Further, with respect to the Project's consistency with relevant General Plan policies, these policies similarly do not address GHG emissions resulting from electricity generation needed for the Project. In fact, the applicable policies relate to largely the same categories as the CAP measures (water conservation, waste disposal). And again, the IS/MND also fails to explain what effect these measures will have in terms of reducing or mitigating the Project's overall operational GHG emissions.

In sum, the fact that the Project is consistent with the City's CAP and General Plan does not provide substantial evidence that GHG emissions will be less than cumulatively considerable, or less than significant. Because the City's CAP was prepared to achieve the City's 2020 GHG emission reduction targets, compliance with the CAP measures at most supports a determination that the

Project will not impede the achievement of the City's 2020 targets. Moreover, of the CAP and General Plan measures applicable, few address the Project's primary source of GHG emissions, and the IS/MND wholly fails to explain how these measures will "ensure[] that the project's incremental contribution to the cumulative effect is not cumulatively considerable." As discussed further below, because substantial evidence supports a fair argument that the Project's GHG emissions may be significant notwithstanding its consistency with the City's GHG reduction plans and programs, an EIR must be prepared.

RESPONSE D-5: As described in Section 4.7.2 of the Initial Study, per Section 15064.4 of CEQA Guidelines, a lead agency may analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions that has been adopted in a public process following environmental review. The City of Santa Clara adopted its CAP (a greenhouse gas reduction strategy) in 2013 in conformance with its most recent General Plan Update. The City's projected emissions and the CAP are consistent with measures necessary to meet statewide 2020 goals established by AB 32 and addressed in the Climate Change Scoping Plan. The threshold of significance for whether a development project in the City of Santa Clara would generate greenhouse gas emissions that would have a significant impact on the environment therefore would be whether or not the project conforms to the applicable reduction measures in the City's CAP. No quantification of emissions is required to determine consistency with the City's CAP. Additionally, section 15064.4(a)(2) of the CEQA Guidelines states that a Lead Agency shall have discretion to determine whether to quantify greenhouse gas emissions or "(r)ely on a qualitative analysis or performance based standards." For these reasons, the City's determination of the project's consistency with the CAP is an adequate threshold for determining the project's impacts. There is no requirement in CEQA or the CEQA Guidelines mandating quantification of a project's GHG emissions, rather a qualitative approach is allowed, in particular when a lead agency has prepared a qualified climate action plan which has accounted for a project's emissions, as is the case here.

Projects that are constructed and operational prior to January 1, 2021 are subject to the 2020 GHG emissions targets established by AB 32 and can rely on a qualified CAP designed to meet the 2020 AB 32 targets for evaluation of GHG impacts under CEQA. The project is anticipated to be constructed and operational prior to this date, and thus can rely on the City's CAP.

Electricity for the project would be provided by the City's electric utility, Silicon Valley Power (SVP). Emissions from SVP power generation are included in the City's CAP. Because the CAP accounts for emissions associated with SVP power generation, the project's consistency with the CAP ensures that the project's GHG emissions associated with electricity usage are less than significant.

COMMENT D-6:

2. The IS/MND's Conclusion That The Project Is Consistent With Regional and State GHG Reduction Plans Is Unsupported

In addition to considering the Project's consistency with the City's CAP, the IS/MND purports to consider the Project's consistency with other regional and statewide efforts to reduce GHG emissions. Specifically, the IS/MND includes sections addressing the Project's consistency with the Bay Area 2017 Clean Air Plan, Plan One Bay Area/SB 375, the 2009 California Climate Change Adaptation Strategy, and the California Air Resources Board's Climate Change Scoping Plan. However, the IS/MND's "consistency analysis" for these plans and programs consists of little more than conclusory statements that the Project is generally consistent with the overarching purpose of

the program. Relying on these conclusory statements, the IS/MND's plan consistency section concludes:

> As discussed above, the project would not conflict with plans, policies or regulations adopted for the purpose of reducing the emissions of GHG. Therefore, the project would not conflict with any currently adopted local plans, policies, or regulations pertaining to GHG emissions and would not generate greenhouse gas emissions that would have a significant impact on the environment.

Contrary to the IS/MND's conclusion, however, the IS/MND offers no evidence that consistency with the above mentioned plans will avoid a significant impact on the environment as a result of the Project's GHG emissions. For example, for the Bay Area 2017 Clean Air Plan, the IS/MND explains that the Plan "identifies a range of control measures that make up the Clean Air Plan's control strategy for emissions including GHGs." However, rather than explaining how the Project is consistent with the "range of control measures" identified in the Clean Air Plan, the IS/MND includes two sentences stating that "energy efficiency measure have been included in the design and operation of the electrical and mechanical systems on the site. This is in keeping with the general purpose of Energy Sector Control Measures in the Clean Air Plan."

Similarly, for its consistency analysis with SB 375, the IS/MND includes one sentence that "[t]he project has a low concentration of employment and would not contribute to a substantial increase in passenger vehicle travel within the region."

Finally, after a paragraph describing the Climate Change Scoping Plan, the IS/MND again includes one conclusory statement that "[t]he project would be generally consistent with the Climate Change Scoping Plan, as updated[.]"

As with the CAP consistency analysis, the IS/MND's consistency analysis for regional and statewide GHG reductions plans and programs wholly fails to explain how the Project's consistency with such plans supports its conclusion that the Project would not generate GHG emissions that would have a significant impact on the environment. Conclusory statements that the Project would be "generally consistent with" or "keeping with the general purpose" are not substantial evidence that impacts will be less than significant, as CEQA requires. Moreover, because none of the plans and programs identified address data centers, where the majority of GHG emissions derive from electricity usage, finding that the Project is consistent is of minimal import in this case.

> **RESPONSE D-6:** The CEQA guidelines and the City of Santa Clara rely on two thresholds for the determination of GHG impacts. The first is whether the project would "…generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment." As discussed in the IS/MND and these responses to comments, the project's consistency with the City's CAP ensures that the project would not result in a significant impact associated with this threshold. The second threshold, which is the one referenced in this comment, is whether a project would "…conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases." The threshold is not whether consistency with relevant plans would avoid a significant impact on the environment as a result of the project's GHG emissions, as suggested in the comment. As described in the IS/MND, the project would include a variety of energy efficiency measures, would not contribute to a substantial increase in passenger vehicle travel, and would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The comment provides no substantial evidence that the project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

COMMENT D-7:

B. Substantial Evidence Supports A Fair Argument That The Project's GHG Emissions Would Result In A Significant Impact

The BAAQMD CEQA Guidelines provide the following thresholds of significance for operational-related GHG emissions for land use development projects:

> Compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per years (MT/yr) of CO2e; or 4.6 MT CO2e/SP/yr (residents + employees).

The IS/MND considers the Project's "compliance with a qualified GHG Reduction Strategy" as the threshold of significance for the Project's operational emissions. However, as discussed above, the IS/MND fails to demonstrate that compliance with the City's CAP and General Plan will reduce or mitigate the Project's GHG emissions to a less than significant level. In order to more accurately evaluate the significance of the Project's impacts, Dr. Fox conducted an analysis of the Project's GHG emissions and compared her results to BAAQMD's other, numeric threshold.

The main text of the IS/MND does not disclose the Project's GHG emissions from sources other than emergency generators. However, in reviewing the IS/MND and air quality appendix, Dr. Fox found that the CalEEMod outputs buried in Appendix A do contain an estimation of a portion of the Project's operational GHG emissions. As an initial matter, these calculations are effectively hidden from all non-expert members of the public. There is also no explanation of how these GHG emissions were calculated, and the CalEEMod model does not include GHGs from energy generation. Nevertheless, the output files show that the unmitigated GHG emissions from Project operations are 1,720 MT CO2e per year, excluding generators and energy usage. This alone exceeds the BAAQMD significance threshold of 1,100 MT CO2e per year, but still does not include the Project's primary source of GHG emissions.

To determine the Project's GHG emissions resulting from electricity usage, Dr. Fox looked to emissions calculations prepared for a similar Santa Clara data center project, the McLaren Data Center Project. The City initially approved the McLaren Data Center Project in 2017. The projected energy demand of the McLaren Data Center Project was 76 MW, compared to the Project's 75 MW. The McLaren Data Center will also be served by Silicon Valley Power. Thus, the two projects will rely on the same sources for electricity generation. The McLaren IS/MND Greenhouse Gas Technical Report indicates that the project would emit 153,850 MT CO2e per year, 99 percent of which (152,262 MT CO2e/year) was attributed to the data center's energy usage.

Relying on the McLaren Data Center calculations, Dr. Fox determined that the Project's GHG emissions from energy usage would be approximately 151,826 MT CO2e per year. When added to the 1,720 MT CO2e per year from other sources disclosed in the CalEEMod outputs, the Project's total operational GHG emissions are 153,546 MT CO2e per year. This figure is 89 times higher than the GHG emissions disclosed in Appendix A, and exceeds the BAAQMD significance threshold for land use projects by a factor of 140.

Because the overwhelming majority of the Project's operational GHG emissions will not be reduced by the City's CAP and General Plan measures, finding that the Project is consistent with the CAP does not support a determination that the Project's GHG impacts will be less than significant. Moreover, as Dr. Fox's comments provide, substantial evidence shows that the Project's GHG emissions will be cumulatively considerable and therefore significant notwithstanding the Project's alleged consistency with a GHG reduction plan. The City must prepare an EIR to disclose and analyze the Project's GHG emissions, and to incorporate all feasible mitigation.

RESPONSE D-7: Please refer to responses D-5 and D-6. The BAAQMD brightline threshold of 1,100 MT/yr noted in the comment is inapplicable for cases, such as in Santa Clara, when a lead agency has prepared a qualified CAP and qualitatively evaluates projects using conformance with the CAP's applicable measures. As noted previously, neither CEQA nor the Guidelines mandate quantification of a project's GHG emissions, nor do they mandate that a project must be compared to a numeric threshold recommended by another agency, in this case BAAQMD. The City had the discretion, but not the obligation, to quantify the project's emissions and compare to the BAAQMD 1,100 MT/yr threshold, but the City also had the discretion to qualitatively evaluate the project's emissions according to the CAP, as it chose to do. The existence of a lead agency's discretion to choose among differing approaches indicates that a fair argument can not be made relying upon the other possible approaches, as that would make meaningless the lead agency's discretion.

The BAAQMD Guidelines support the City's approach to qualitatively address the project's consistency with the qualified CAP. Therefore, the commentor's reliance on the BAAQMD's 1,100 MT/yr brightline threshold (to be used in cases where no qualified CAP exists) is misplaced and does not reflect substantial evidence in support of a fair argument the project's GHG emissions would be significant, since the project's emissions have been considered together with the community-wide GHG emissions through 2020, which have collectively been found to comply with 2020 GHG targets set by AB 32.

COMMENT D-8:

V. Substantial Evidence Supports a Fair Argument That the Project Will Cause Significant Noise Impacts

Appendix G to the IS/MND explains that the Project's emergency equipment, including the backup generators and battery switchgear, would generate significant operational noise impacts. To reduce these impacts to a less than significant level, the IS/MND contains two mitigation measures addressing operational noise: First, MM NOI-1 requires that "[n]o more than nine powerblocks (45 generators) located on the western boundary of the generator yard may be tested simultaneously." Second, MM NOI-2 provides that "[n]oise attenuation measures will be subject to demonstration of effectives in meeting the City's noise standards, to the satisfaction of the City's Planning Division, prior to approval of building permits." The IS/MND concludes that "[w]ith implementation of MM NOI-1 and MM NOI-2, noise levels at adjacent property lines would be below the requirements established in the City Code" and therefore less than significant with mitigation incorporated.[71] Additionally, the IS/MND concludes that, "assuming emergency testing occurs for no more than four hours in a twenty-four (24) hour period," the Project "would not result in significant increases in ambient noise levels at adjacent receptors."

As explained further below, the IS/MND's conclusion that noise impacts will be mitigated to less than a significant level is unsupported for two reasons. First, the IS/MND does not disclose or evaluate the noise levels resulting from simultaneous operation of all generators. Rather, it bases its conclusion that impacts would be less than significant on the fact that the City's noise ordinance does not apply during emergency situations and therefore would not be violated. However, the IS/MND's analysis in this regard is in clear conflict with the requirement of CEQA to consider the Project's effects on the surrounding environment, not simply whether it will comply with City law. Second, the IS/MND fails to incorporate the mitigation measures that the attached noise assessment demonstrates are necessary to reduce noise impacts to a less than significant level. Instead, the IS/MND incorporates a variation of one of the recommended measures, while erroneously excluding the others.

For each of these reasons, the IS/MND's determination that noise impacts would be less than significant is not supported by substantial evidence. Noise levels generated by the Project's equipment remain significant and unmitigated.

A. The IS/MND Fails to Disclose and Analyze Noise Impacts that May Result from the Operation of Backup Generators

The first flaw of the IS/MND's noise analysis is that it is prepared as though the Project's backup generators will only be used for maintenance and testing purposes. This misleading approach ignores the reality that the backup generators were included in the Project for a reason and will be used simultaneously when the Project's primary power supply is interrupted. It also prevents the public and decisionmakers from conducting an informed evaluation of the Project's potential noise impacts. Neither the IS/MND nor Appendix G disclose to the reader the sound levels that would result from all 120 generators operating simultaneously. Further, in considering whether the Project would result in a significant increase over ambient noise levels, the projected noise level displayed in the IS/MND was calculated assuming emergency generators operate for no more than four hours in a day.

Contrary to the IS/MND's depiction of the Project's backup generators, SVP's outage history demonstrates that all 120 backup generators will be called on to operate throughout the year. The Silicon Valley Power website shows that the utility has experienced 41 power outages across its entire service area over the course of the last year and a half. These power outages ranged in duration from five minutes to more than five hours, with causes ranging from equipment failure to balloons to animal contact. As these figures show, disruptions to the Project's power supply may reasonably be expected throughout the Project's operational life and all generators will be required to operate simultaneously.

The omission of impacts from all generators operating simultaneously not only renders the IS/MND deficient as an informational document, it renders the City's determination that noise impacts would be less than significant not supported by substantial evidence. The fact that "[e]mergency equipment such as backup generators are not required to meet noise code during emergency operations [per section 9.10.070(a) of the Santa Clara City Code]" does not support a determination that noise impacts would be less than significant under CEQA. While compliance with applicable noise limits is a relevant consideration, CEQA ultimately requires consideration of the Project's effect on the surrounding environment notwithstanding it's compliance with applicable City laws. As the City's own analysis shows, noise levels will be highest during emergency situations when all generators are required to operate at once. However, these impacts are never disclosed or analyzed in the IS/MND. The mitigation measures required will not reduce noise impacts resulting from simultaneous operation of all backup generators. MM NOI-1 does not mitigate noise levels other than during routine testing. MM NOI-2 requires a demonstration that noise attenuation measures are sufficient to meet City noise standards, which the IS/MND expressly states do not apply when the backup generators are actually needed. Thus, the determination that noise impacts would be mitigated to a less than significant level by MM NOI-1 and MM NOI-2 alone is unsupported. The City's own evidence supports a fair argument that noise impacts may be significant.

> **RESPONSE D-8:** Because data centers must ensure uninterrupted service to their clients, emergency backup generators are often installed to ensure electricity supply in the event of an emergency power outage. The generators proposed by the project are not intended to be used during typical project operation, other than for the purposes of routine testing and maintenance. For impacts associated with project operation, such as noise generation, CEQA requires an analysis of a project's typical operation under normal conditions. Simultaneous operation of all generators on the site would not occur under normal conditions, and would only take place during an unforeseen emergency power outage. While localized, temporary outages do occur in Santa Clara, as stated in the comment, no outages have occurred at the

project site in the last 12 months.[2] Based on this history, it is speculative to assume that the project site would be subjected to regular outages, as asserted in the comment. The focus on noise generated by typical project operations under normal conditions in the IS/MND is, therefore, appropriate for the analysis of noise impacts. CEQA does not require analysis of emergency events, nor worst-case events that may never occur, or very rarely over a project's lifespan.

COMMENT D-9:

B. The IS/MND Fails to Incorporate the Measures Required to Mitigate Noise Impacts to a Less Than Significant Level

In addition to failing to disclose and evaluate the Project's potentially significant noise impacts during reasonably foreseeable disruptions to the Project's power supply, the IS/MND's determination that noise impacts will be mitigated to a less than significant level is refuted by its own noise assessment. Specifically, the IS/MND fails to incorporate restrictions that the noise assessment shows are needed for the Project to comply with the City's noise limits during routine testing. Accordingly, the IS/MND must be revised to incorporate enforceable mitigation measures consistent with the restrictions specified in Appendix G otherwise noise impacts remain significant.

The IS/MND explains that the generators and PCS modules must comply with the City's noise code during routine testing. The applicable noise limits at each of the Project's property lines are listed in the IS/MND as follows:

Property Line	**Daytime Noise Limit [dBA]**	**Nighttime Noise Limit [dBA]**
1. Residential to North	55	50
2. Public Space to West	55	50
3. Light Industrial to East	70	70
4. Planned Development to South	65	60

Appendix G concludes that "the daytime noise limits will be met if no more than (9) powerblocks (45 generators) and eleven (11) PCS modules are tested simultaneously." Additionally, Appendix G specifies: "To meet code limits at all property lines, no more than four (4) powerblocks along the west end of the generator yard may be tested simultaneously." With these restrictions in place, sound pressure levels would be 54 dBA at receivers 1 and 2, 59 dBA at receiver 3, and 54 dBA at receiver 4, and therefore would be below daytime limits.

As the above statements demonstrate, the IS/MND's conclusion that noise impacts will be less than significant with the incorporation of mitigation measures MM NOI-1 and MM NOI-2 is inconsistent with Appendix G. First, despite a brief statement in the IS/MND that "testing would be conducted between the hours of 7:00 AM and 10:00 PM," there is no enforceable restriction on the time equipment testing may occur at the Project. In the absence of an enforceable time restriction, nighttime noise limits at both the north and west property lines would be exceeded during testing (54 dBa during testing compared to 50 dBA nighttime noise limit).

Second, Appendix G states that, "[t]o meet code limits at all property lines, no more than four powerblocks along the west end of the generator yard may be tested simultaneously." However, MM NOI-1 erroneously sets the limit on simultaneous testing at nine powerblocks on the western boundary. There are nine powerblocks along the west end of the property alone. Thus, the Applicant could test all nine western powerblocks simultaneously, resulting in a violation of City noise limits, without violating MM NOI-1.

[2] Sachin Bajracharya, Senior Electric Engineer, Silicon Valley Power. Personal Communication. April 17, 2018.

Third, the mitigation measures imposed do not restrict testing of PCS modules. As noted above, Appendix G states that no more than 11 PCS modules may be tested simultaneously to remain in compliance with City noise limits.87 The Project will feature 37 PCS Modules in total. Thus, in the absence of a restriction on PCS Module testing, the IS/MND's conclusion that noise impacts will be less than significant during emergency equipment testing is again refuted by the City's own analysis.

In the absence of enforceable mitigation specifying that no more than four powerblocks along the west end of the generator yard may be tested simultaneously; no more than 11 PCS modules may be tested simultaneously with generator testing; and that all emergency equipment testing shall occur between the hours of 7:00 AM and 10:00 PM, the IS/MND's conclusion that impacts will be less than significant with mitigation is not supported by substantial evidence. Unless these restrictions are incorporated, noise impacts would be significant.

> **RESPONSE D-9:** As stated in the comment, the noise analysis prepared for the project (refer to Appendix G) determined that no more than nine generators and 11 PCS modules should be tested simultaneously, and of the generators being tested, only four would be located on the western boundary of the site. Due to a typographical error, the text of the mitigation measure in the IS/MND (MM NOI-1) did not fully convey the requirements identified in Appendix G. The two were intended to be consistent, and the text of the IS/MND has been revised accordingly (see *Revisions to the Text of the Initial Study*). The text revisions do not represent new information (i.e. a new impact or mitigation), but are merely a clarification of mitigation already identified in the IS/MND.

COMMENT D-10:

VI. Substantial Evidence Supports a Fair Argument That the Project May Result in Significant Air Quality Impacts

Project construction emissions were calculated using the California Emissions Estimator Model ("CalEEMod"). Dr. Fox reviewed the IS/MND's emissions calculations, including the CalEEMod outputs, and found that the IS/MND underestimates Project construction emissions. As explained more fully below, entire categories of emissions, including fugitive dust emissions from off-road vehicles and wind erosion, are not accounted for in the construction emissions calculations. After recalculating Project construction emissions to account for these omissions, Dr. Fox concluded that impacts to air quality from construction-generated particulate matter may be significant.

Furthermore, because the CalEEMod model was run for an annual scenario only, with average daily emissions calculated by dividing annual emissions by 336 work days, the IS/MND's emissions calculations are inaccurate and its conclusions are unsupported. As Dr. Fox explains, CalEEMod can be run for three scenarios: annual or summer and winter with output in pounds per day. It also calculates maximum daily construction emissions. Here, the IS/MND's approach of determining daily emissions averages by division results in an inaccurate calculation of the Project's construction emissions as construction will occur over a 15 month period and emissions will vary depending on seasonal conditions. Averaging emission also fails to account for the fact that construction phases may overlap in time, with multiple pieces of construction equipment operating simultaneously.

Because the IS/MND's emissions calculations are inaccurate, they cannot be relied on to support a determination that air quality impacts from Project construction will be less than significant. Moreover, as discussed further below, substantial evidence supports a fair argument that Project construction will result in significant particulate matter emissions from fugitive dust. Accordingly, an EIR must be prepared to accurately disclose and analyze the Project's construction emissions and to impose all feasible mitigation.

A. Construction Fugitive Dust Emissions Were Omitted from the IS/MND Emissions Calculations

The CalEEMod User's Guide states that the program does not account for fugitive dust emissions from off-road vehicle travel when calculating emissions. This category of emissions includes fugitive dust generated by on-site haul trucks during construction activities.94 On site haul trucks generate fugitive PM10 and PM2.5 emissions when traveling on unpaved surfaces within a project site, such as during site preparation and grading. Here, the IS/MND states that fugitive dust will be generated during Project construction. It also indicates that project construction will include site preparation, grading, and excavation for the 15.7 acre site. However, the IS/MND does not disclose the size or extent of unpaved surfaces, or calculate fugitive dust emissions resulting from haul truck activities in these areas.

In order to more accurately calculate the Project's construction-related emissions, Dr. Fox calculated particulate matter emissions from on-site haul truck travel using EPA's air pollution emission factor equation for industrial unpaved roads.95 Based on her calculations, which are detailed further in the attached comments, Dr. Fox determined that project construction would generate approximately 458 pounds per day of PM10, and approximately 46 pounds per day of PM2.5 as a result of off-road vehicle travel.

Furthermore, the CalEEMod model also does not account for "fugitive dust generated by wind over land and storage piles." The CalEEMod Technical Paper acknowledges that this limitation "could result in underestimated fugitive dust emissions if high winds and loose soil are substantial characteristics for a given land use/construction scenario." As Dr. Fox notes, windblown dust can be a significant source of fugitive PM10 and PM2.5, particularly in the Bay Area where frequent hot, dry high-wind events are common in spring and fall. These emissions could result in public health impacts due to violations of state and federal ambient air quality standards for PM10 and PM2.5.

Because the IS/MND does not provide a separate emissions estimate for windblown dust from Project construction activities, Dr. Fox calculated windblown dust emissions using the AP-42 construction emission factor and information contained in the IS/MND. AP-42 includes a generic construction emission factor of 1.2 tons of total suspended material per acre per month of construction activity. Assuming 2.5 acres are disturbed on the maximum day and that 90% of the total suspended material is PM10, Dr. Fox determined that PM10 emissions from wind erosion alone would be 180 lb/day. Similarly, conservatively assuming that only 25% of PM10 wind erosion emissions are PM2.5, wind erosion PM2.5 emissions would be 45 lb/day.

Alternatively, using the AP-42 "Industrial Wind Erosion" guidance and assuming a 2-minute wind speed of 30 mph, Dr. Fox estimated wind erosion PM10 emissions from a similar, but much smaller disturbed area at a construction site (4 acres disturbed) would be 60 lb/day of PM10 and 30 lb/day of PM2.5. However, she explains, "Wind erosion PM10 and PM2.5 emissions calculated using the AP-42 'Industrial Wind Erosion' methodology would be substantially higher if the entire disturbed area were included."

> **RESPONSE D-10:** The CalEEMod model is recommended by BAAQMD as part of the tools for conducting air quality analysis of projects in accordance with their CEQA Air Quality Guidelines. The model has been routinely used for these types of analyses on projects conducted throughout the Bay Area. When recommending significance thresholds for project construction, BAAQMD specifically did not identify quantitative emission thresholds for fugitive dust. Rather BAAQMD recommended that the level of significance be tied to the appropriate level of dust control (e.g., application of Best Management Practices). The IS/MND identified BAAQMD's recommended best management practices

for a project of this type as standard measures required to be implemented by the project. Implementation of these standard measures would reduce fugitive dust impacts to a less than significant level.

Annual construction emissions were computed using CalEEMod. The total emissions over the construction period were divided by the number of construction workdays to compute the average daily construction emissions, such that these emissions could be compared to the thresholds for reactive organic gases (ROG), nitrogen oxides (NOx), respirable particulate matter (PM10) exhaust, and fine particulate matter (PM2.5) exhaust. The thresholds used in the IS/MND and recommended in the BAAQMD CEQA Air Quality Guidelines are "Average Daily" Emissions. Those guidelines do not have thresholds for maximum daily emissions. The City uses the thresholds recommended in the BAAQMD CEQA Air Quality Guidelines. It should be noted that the IS/MND air quality analysis identified construction period emissions as significant and identified mitigation and standard measures to reduce impacts to a less than significant level.

COMMENT D-11:

B. Construction PM10 and PM2.5 Emissions Are Significant

Under CEQA, "the determination of whether a project may have a significant effect on the environment calls for careful judgment on the public of the public agency involved, based to the extent possible on scientific and factual data." BAAQMD's CEQA guidelines do not establish a threshold of significance for fugitive dust PM10 and PM2.5 emissions; however, several other California air pollution control districts have adopted significance thresholds for fugitive dust construction emissions. For example, the Monterey Bay Unified Air Pollution Control District has established a significance threshold of 82 pounds per day for construction PM10 emissions; the South Coast Air Quality Management District has established thresholds of 150 pounds per day for PM10 and 55 pounds per day for PM2.5; and the Sacramento Metropolitan Air Quality Management District has established significance thresholds of 80 pounds per day for PM10 and PM2.5 if all feasible control measures are implemented. The CEQA Guidelines provide that "when adopting thresholds of significance, a lead agency may consider thresholds of significant previously adopted or recommended by other public agencies or recommended by experts provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." Here, when taken together, these agencies show a reasonable threshold of significance of construction emissions is 80-150 pounds per day for PM10 and zero-80 pounds per day for PM2.5.

Dr. Fox's calculations demonstrate that when fugitive PM10 emissions are calculated to include off-road vehicle travel and wind erosion, total construction fugitive PM10 emissions may range from 524-648 pounds per day. Furthermore, total fugitive PM2.5 emissions are approximately 79-94 pounds per day when off-road vehicle travel and wind erosion are accounted for. As Dr. Fox notes, if all information necessary to calculate fugitive dust emissions were provided in the IS/MND, emissions levels would be higher. These calculations support a fair argument that the Project's fugitive PM10 and PM2.5 emissions from construction activities are significant. Thus, the City must prepare an EIR to analyze construction impacts and to adopt all feasible mitigation.

RESPONSE D-11: Please refer to Response D-10. As acknowledged in the comment, BAAQMD's CEQA guidelines do not establish a threshold of significance for fugitive dust PM10 and PM2.5 emissions; instead BAAQMD recommends that the level of significance be tied to the appropriate level of dust control (e.g., application of Best Management Practices). The IS/MND compared the project's impacts to the City's adopted thresholds, as recommended by BAAQMD, and determined the impacts to be less than significant. The City is not required to utilize thresholds from other agencies.

COMMENT D-12:

VII. The IS/MND Failed to Evaluate Ozone Impacts

The IS/MND failed to determine whether increases in ozone precursors from the Project would cause or contribute to additional violations of ambient air quality standards for ozone. Appendix A states that, "[a]lthough the project could cause a cumulatively considerable net increase in ozone precursor emissions, they are no [sic] expected to cause or substantially contribute to a violation of an ozone ambient air quality standard." However, the IS/MND provides no analysis or discussion to support this single conclusory statement.

The Bay Area Air Basin, the air basin in which the Project would be located, is designated as a serious nonattainment area for the state 1-hour ozone standard and as nonattainment for the federal 8-hour ozone standard. As Dr. Fox's comments explain, increases in ozone precursor emissions from the Project, coupled with emissions from other projects in the area, may aggravate existing exceedances of ozone standards or result in additional exceedances. This is a potentially significant impact of the Project that is undisclosed in the IS/MND.

Ground-level ozone is not emitted directly into the air but is created by chemical reactions between NOx and VOCs. The NOx and VOCs react in the presence of sunlight, creating ozone. Ozone at ground level is a harmful air pollutant because of its adverse effects on people and the environment. The public health impacts resulting from Ozone include:

- making it more difficult to breathe deeply and vigorously;
- causing shortness of breath and pain when taking a deep breath;
- causing coughing and sore or scratchy throat;
- inflaming and damaging the airways;
- aggravating lung diseases such as asthma, emphysema, and chronic bronchitis;
- increasing the frequency of asthma attacks;
- making the lungs more susceptible to infection;
- continuing to damage the lungs even after symptoms have disappeared; and
- causing chronic obstructive pulmonary disease (COPD).

Ozone also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas, and can cause significant damage during the growing season.

In the Project at hand, sources of VOCs and NOx include Project construction equipment, backup generators, traffic, the generation of electricity, and the diesel storage tanks. Emissions of NOx and VOCs from these sources will increase ambient ozone concentrations, may aggravate existing exceedances of ozone standards and perhaps cause additional exceedances. These exceedances translate directly into adverse health impacts on the affected population and environment.

As the IS/MND shows, the Project's unmitigated construction emissions would exceed BAAQMD thresholds for NOx. After mitigation, average daily construction emissions are estimated to just below the BAAQMD threshold at 51 pounds per day. Furthermore, Project operational emissions from generator testing alone are just below the BAAQMD threshold of significance with the timing restrictions of MM AIR-2 incorporated. These emissions do not account for emissions from actual use of the backup generators in the case of a power outage, which as discussed in section V (A) above, is a highly foreseeable scenario. Moreover, when emissions from nearby Projects, including similar data center Projects are taken into account, the Project's VOC and NOx emissions could be

cumulatively considerable. These increases in ozone precursors should have automatically triggered an analysis of their impact on ambient ozone concentrations and the air basin's attainment status.

The IS/MND's conclusion that Project emissions are not expected to cause or substantially contribute to a violation of an ozone ambient air quality standard is unsupported. As Dr. Fox comments demonstrate, substantial evidence supports a fair argument that the Project may result in a cumulatively considerable net increase in ozone precursors, and may aggravate existing exceedances of ozone standards and or cause additional exceedances, which is a significant impact. Accordingly, the City must prepare an EIR to disclose and analyze the Project's impacts on ambient ozone concentrations, and to incorporate all feasible mitigation.

> **RESPONSE D-12:** The IS/MND identified significant impacts from emissions of NOx during both construction and operation of the project. Mitigation measures identified in the IS/MND would reduce the project emissions to less than significant levels. NOx is a precursor to ozone and, for that reason, BAAQMD has established an emissions significance threshold for NOx and ROG (another ozone precursor pollutant). The BAAQMD CEQA Guidelines (page 2-1) recognize that no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality is considered significant. The proposed project by itself does not cause or contribute measurably to a violation of an ozone ambient air quality impact. To stress this point, the project, without implementation of identified mitigation measures, could result in NOx emissions of 75 pounds per average day during construction and 60 pounds per average day during operation. Ozone is a regional air pollutant affected regionally by emissions of ROG and NOx. Throughout the air basin, the California Air Resources Board reports 2012 emissions of NOx at 588 tons per day (1,176,000 pounds per day). The project emissions would represent a small fraction of a percent of the basin-wide emissions, and would not constitute a considerable contribution to a cumulative impact.

COMMENT D-13:

VIII. NOx Emissions From the Emergency Diesel Generators Are Significant and Unmitigated

To determine the maximum air quality impacts from the Project's backup diesel generators, the IS/MND calculated daily emissions assuming operation of all generators at 100% engine load one day per month. The IS/MND shows that daily NOx emissions from all generators operating simultaneously totaled 57 pounds per day, which exceeds the BAAQMD threshold of significance of 54 pounds per day. To mitigate this significant impact, the IS/MND imposes mitigation measure MM AIR-2, which limits generator operation for maintenance and testing "shall be limited so that the combined operation of all engines does not exceed 100 hours per day in total." This limit applies to generator operation for testing and maintenance purposes only; the IS/MND does not include any restriction on generator operation when serving the data center.

As discussed in Dr. Fox's comments, assuming that exceeding 100-hours combined operation will result in an exceedance of BAAQMD significance thresholds for NOx emissions, it would take just 50 minutes of simultaneous operation of the Project's 120 generators to exceed NOx thresholds. As discussed above, SVP experienced multiple power outages in the last year, many of which exceeded 50 minutes. Under these conditions, it may reasonably be expected the Project's generators would exceed 100-hours of combined operation.

Because MM AIR-2 does not address generator operation during emergency conditions, but rather only operations for maintenance and testing purposes, the IS/MND's conclusion that generators NOx

emissions would be less than significant with mitigation incorporated is not supported by substantial evidence. The IS/MND shows that the combined operation of the Project's 120 generators would exceed significance thresholds in a reasonably foreseeable disruption to the Project's power supply. Thus, NOx emissions from operation of the Project's backup generators remain significant and unmitigated.

RESPONSE D-13: As described in Response D-8, the generators proposed by the project are not intended to be used during typical project operation, other than for the purposes of routine testing and maintenance. For impacts associated with project operation, such as emissions of pollutants, CEQA requires an analysis of a project's typical operation under normal conditions. Simultaneous operation of all generators on the site would not occur under normal conditions, and would only take place during an unforeseen emergency power outage. While localized, temporary outages do occur in Santa Clara, as stated in the comment letter, no outages have occurred at the project site in the last 12 months.[3] Based on this history, it is speculative to assume that the project site would be subjected to regular outages, as asserted in the comment. The focus on emissions generated by typical project operations under normal conditions in the IS/MND is, therefore, appropriate for the analysis of air quality impacts. CEQA does not require analysis of emergency events, nor worst-case events that may never occur, or very rarely over a project's lifespan.

The IS/MND identified significant impacts from emissions of NOx during operation and identified mitigation measure MM AIR-2 to mitigate these emissions to a less than significant level by restricting the number of hours that the generators operate. Per direction by BAAQMD, emissions from routine testing and maintenance were only considered in the analysis. The procedure is in accordance with BAAQMD Regulation 2, Rule 5 and the number of non-emergency operation hours per year is limited to 50 hours per the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Section 93115, Title 17 CCR). The District's procedure for permitting emergency generators is to consider operation of the generators for up to 50 hours per year.

The thresholds used in the IS/MND are based on average daily emissions. The evaluation of emissions in the IS/MND air quality analysis included two conservative assumptions regarding daily emissions computations: first, it assumed that emissions all occur at 100-percent load during testing and included only average emissions for each day that testing occurs. Since the facility operates every day and generator testing could occur any day, the emissions could have been averaged over 365 days, resulting in much lower daily emissions. The analysis in the IS/MND, therefore, represents a conservative evaluation of the project's NOx emissions. The mitigation identified in the IS/MND would reduce NOx emissions to a less than significant level.

COMMENT D-14:

IX. The IS/MND Fails to Require All Feasible Mitigation

A. All Feasible Mitigation Must Be Required for Construction-Related Fugitive PM10 and PM2.5 Emissions

As demonstrated in section VI(B) above, substantial evidence supports a fair argument that fugitive PM10 and PM2.5 emissions from Project construction activities may be significant. CEQA requires that the City prepare an EIR to analyze these emissions and to implement all feasible mitigation measures when a potentially significant impact is identified. Currently, the IS/MND requires that the Applicant implement BAAQMD's recommended construction mitigation measures. However, as Dr.

[3] Sachin Bajracharya, Senior Electric Engineer, Silicon Valley Power. Personal Communication. April 17, 2018.

Fox notes, there are additional feasible mitigation measures to reduce fugitive PM emissions. Mitigation measures that have been required in recent CEQA documents or recommended by the U.S. EPA:

- The number of pieces of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practicable number is operating at any one time.
- Signs shall be posted in designated areas and job sites to remind drivers and operators of the speed limit.
- Low rolling resistance tires shall be used on long haul class 8 tractor-trailers.
- When soil will be disturbed by heavy equipment or vehicles, wet soil before disturbing it and continuously wet while digging to keep dust levels down.
- Water all grading areas at least four times daily as water evaporates quickly in hot climates, requiring more frequent watering than two times per day.
- Use a watering method that does not raise dust.
- Use the calcium chloride methods or salt crust process to achieve better dust control than with water alone.
- Use fine atomized sprays or mist sprays with droplet diameters of 60 um, produced by swirl-type pressure nozzles or pneumatic atomizers on watering trucks.
- Thoroughly clean equipment, vehicles, and other items before they are moved off-site.
- Continuously wet the soil before and while digging or moving the earth. Areas where bulldozers, graders, or skip steers operate are examples of areas where continuously wetting the soil should be required.

Additionally, methods of ensuring compliance or monitoring mitigation measures should be required. For example, monitoring of wind speed to determine when winds exceed 20 mph should be incorporated. Similarly, measures to ensure vehicles to not exceed 15 mph should be incorporated.

> **RESPONSE D-14:** As described in the IS/MND, Appendix A, and the responses above, the mitigation and standard measures included in the IS/MND are adequate to reduce air quality impacts to a less than significant level. No additional mitigation is required.

COMMENT D-15:

B. All Feasible Mitigation Must Be Required for GHG Emissions

As detailed in section IV above, substantial evidence supports a fair argument that the Project's GHG emissions may be significant notwithstanding its alleged consistency with the City's CAP. CEQA thus requires that all feasible mitigation be incorporated to avoid or lessen impacts resulting from the Project's GHG emissions. Dr. Fox's comments demonstrate that additional feasible mitigation measures are available to reduce the Project's GHG emissions.

First, the Project could reduce its GHG impacts by installing solar panels to the maximum extent feasible, including over parking spaces and any roof area not being used for cooling towers or other equipment. The Applicant could acquire additional land in the vicinity to install any additional PV panels required to offset 100% of the demand.

Second, the Applicant could be required to enter into a long-term (e.g., 20-year minimum) purchase agreement for renewable energy in which the provider is contractually bound to retire the renewable energy credits associated with the renewable energy on CARB's behalf.

Third, other building envelope and facility operation measures are feasible and should also be required. These include:

- Replace the diesel-powered generators with backup power from on-site solar coupled with battery backup. The Project currently includes batteries, but the IS/MND is silent on their capacity or use.
- Require bus stops, express lanes, and bus stop shelters for existing/planned transit service that supports the Project.
- Use traffic calming measures, including all internal sidewalks a minimum 5 feet wide, all sidewalks with vertical curbs, roadways routed to avoid "skewed intersections."
- Use the following traffic-calming features at internal and adjacent intersections: marked crosswalks, count-down signal times, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts, or mini-circles.
- Participate in funding off-site traffic improvements to reduce idling by increasing traffic flow through synchronized traffic signals.
- Use the following traffic-calming features on internal and adjacent streets: planter strips with trees, chicanes/chokers (variations in road width to discourage high-speed travel).
- Provide preferential parking for park-and-ride to incentivize carpooling, vanpooling, commuter bus, and electric vehicles.
- Require "cool parking" by, for example, providing tree cover to reduce the heat-island effect.
- Provide preferential parking for EV /CNG vehicles.
- Use only drought-resistant native trees, trees with low emissions and high carbon sequestration potential.
- Orient building to maximize shade in the summer and maximize solar access to walls and windows in the winter.
- Provide shade and/or use light-colored/high-albedo materials and/or open-grid pavement for at least 30% of the site's nonroof impervious surfaces, including parking lots, walkways, plazas, etc.; or place a minimum of 50% of parking spaces underground or covered by structured parking, or use an open-grid pavement system for a minimum of 50% of the parking lot area.
- Implement CALGreen Tier 2 standards or better.
- Use a chiller system that uses less energy, such as the cactus chiller.

RESPONSE D-15: Please refer to Responses D-5 and D-6. As described in the IS/MND, the project would not result in significant GHG impacts that are not already addressed by the City's comprehensive Climate Action Plan that covers all GHG emissions attributable to Santa Clara sources through 2020 consistent with AB 32 statewide targets and, therefore, no mitigation is required.

COMMENT D-16:

X. The City Lacks the Authority to Approve Powerplant Projects

In addition to the numerous deficiencies with the IS/MND described above, the City cannot approve the Project because the California Energy Commission ("CEC") has exclusive jurisdiction to approve powerplants, such as that included as part of the Project.

Under the Warren Alquist Act, Public Resources Code section 25500, the CEC has exclusive jurisdiction to certify all sites and related facilities for thermal power plants that generate 50 megawatt (MW) or more within California. For purposes of the Act, "thermal powerplant," is defined as "any stationary electrical generating facility using any source of thermal energy, with a generating capacity of 50 MW or more." As seen in the case of other Santa Clara data center projects, diesel-fueled backup generators serving data center facilities are encompassed with the scope of the CEC's

jurisdiction where the collective generating capacity exceeds 50 MW. Here, the combined generating capacity of the Project's 120 backup diesel generators is 75 MW.

Under Public Resources Code section 25500, the siting authority of the CEC supersedes local approval of thermal powerplant facilities. The CEC may exempt thermal powerplants with a generating capacity of up to 100 megawatts if it finds that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed facility or from the modifications. However, in the absence of a Small Power Plant Exemption ("SPPE"), construction of a powerplant project may not commence without first obtaining certification for any such site and related facility by the CEC. Here, the Applicant has not obtained an SPPE, thus the Project remains subject to the siting jurisdiction of the CEC.

RESPONSE D-16: This comment does not pertain to the analysis of environmental impacts in the IS/MND. No further response is required.

COMMENT D-17:

XI. CONCLUSION

For the foregoing reasons, we urge the City to withdraw the MND. The environmental impacts of the Project should be evaluated by the CEC in an EIR, or alternatively, pursuant to the agency's certified regulatory program.

RESPONSE D-17: As discussed in the detailed responses above, the comment letter does not present substantial evidence supporting a fair argument that the project would result in significant unavoidable environmental impacts and, therefore, an EIR is not required for the project.

Revisions to the Text of the Initial Study

The following section contains text revisions to the *2305 Mission College Boulevard Data Center Project Initial Study/Mitigated Negative Declaration,* dated March 2018.

Underlining depicts text added, while ~~strikeouts~~ depict text deleted.

Page 43: **REVISE** *Section 4.4.1.1, Regulatory Setting,* as shown.

The Santa Clara Valley Water District (SCVWD) has adopted an ordinance that protects watercourses, creeks, streams, lakes, ponds, and reservoirs. The ordinance requires a project review and permitting process to minimize impacts to watercourses resulting from development or community activities. SCVWD currently issues encroachment permits via the Water Resources Protection Ordinance, which requires permits for work on District property and easements. Since project construction activities would not be located on SCVWD property, the project would not require an encroachment permit. ~~Any project within 50 feet of any watercourse must first obtain an encroachment permit from SCVWD. The site's western boundary is within 50 feet of San Tomas Aquino Creek. The project, therefore, would be required to obtain an encroachment permit prior to construction activities.~~

Page 78: **INSERT the following text in** *Section 4.8.2.2, Hazardous Materials Impacts from the Project,* as shown.

The project includes backup batteries located in an equipment yard in the northern portion of the site. The backup batteries would serve to provide backup electricity in the event of a power outage. The proposed project has been reviewed by the City of Santa Clara Fire Department to ensure adequate fire safety and suppression. The project would be constructed in conformance with current codes, including features that would reduce potential fire hazards. The site design is consistent with regulatory requirements for fire truck access. The transport, use, and disposal of batteries, including lithium ion batteries, is governed by various regulations, including Title 49 of the Code of Federal Regulations (49 CFR 173.185), which places requirements on the design, packaging, and transport of lithium ion batteries. The project would be required to comply with all relevant regulations related to batteries. Compliance with existing regulations would ensure hazards associated with the project's batteries would be less than significant.

Page 80: **REVISE** *Section 4.9.1.1 Regulatory Framework,* as shown.

The project is a redevelopment project located in a catchment draining to hardened channel and/or tidal area. ~~subwatershed or catchment area that is greater than or equal to 65 percent impervious~~. Therefore, the project site is not subject to the hydromodification management requirements of the Municipal NPDES permit.

Page 81: **REVISE** *Section 4.9.1.1Impaired Surface Water Bodies,* as shown.

~~The Guadalupe River is listed as an impaired waterbody in the U.S. EPA's Section 303(d) Listed Waters for California. The source of impairment is attributed to urban runoff/storm sewers, mine tailings, and illegal dumping. The contaminants listed~~

~~include diazinon, mercury and trash.~~ The nearest water body to the site, the San Tomas Aquino Creek, is not listed as an impaired waterbody in the U.S. EPA's Section 303(d) Listed Waters for California.

Page 81: **REVISE** *Section 4.9.1.2 Existing Conditions,* as shown.

Zone AH is defined as Special Flood Hazard areas with a one-percent annual chance of shallow flooding, with average flood depths of 1 to 3 feet (usually areas of ponding). The existing elevation is approximately 23 ~~27~~ feet above mean sea level (msl).

Page 83: **REVISE** *Section 4.9.2.1 Flooding,* as shown.

The site is located within ~~a~~ the dam failure inundation hazard areas of Anderson Dam and Leniham Dam.

Page 84: **REVISE** *Section 4.9.2.1 Flooding,* as shown.

Flood waters associated with a catastrophic dam failure at Anderson Dam and Leniham Dam would result in flooding at the site (as well as large portions of the Santa Clara Valley).

Page 85: **REVISE** *Section 4.9.2.2, Post-Construction Water Quality Impacts*, as shown.

Plans will be certified by engineers to ensure incorporation of appropriate and effective source control measures to meet Low Impact Development (LID) requirements, to prevent discharge of pollutants, reduce impervious surfaces, retain a percentage of runoff on-site for percolation, and treatment control measures to remove pollutants from runoff entering the stormwater basins and eventually to San Tomas Aquino Creek ~~the Guadalupe River~~ and the San Francisco Bay.

Page 95: **REVISE** *Section 4.12.2.1, Noise Impacts from Operation of Data Center,* as shown.

MM NOI-1: *Emergency Generator Testing*. No more than nine powerblocks (45 generators) and 11 PCS modules ~~located on the western boundary of the generator yard~~ may be tested simultaneously. Of the nine powerblocks being tested, only four may be located on the western boundary of the site.

Attachment 1

Response Memos from Project Air Quality Consultant

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M E M O

Date: April 17, 2018, 2018

To: **Michael Lisenbee**
David J. Powers and Associates
mlisenbee@davidjpowers.com

From: James A. Reyff
Illingworth & Rodkin, Inc.
1 Willowbrook Court, Suite 120
Petaluma, CA 94954

RE: 2305 Mission College Blvd Data Center Project (formerly Aligned Data Center)

SUBJECT: Response to Comments on Air Quality by Adams Broadwell… Job#17-069

This memo addresses technical comments regarding the air quality study for the 2305 Mission College Blvd Data Center Project, formerly referred to as the Aligned Data Center. This air quality study was prepared by Illingworth & Rodkin, Inc., dated April 20, 2017. Comments were made by Adams Broadwell Joseph & Cardoza, dated April 12, 2018. Note that we had a very short time to review and respond to these comments and the Commenter used a Consultant, Phyllis Fox, Ph.D to provide a rather lengthy technical analysis of several areas of the analysis. Our responses focus on the main points.

Please note that we provided responses to other comments and described the updated CalEEMod modeling that did not change the IS/MND air quality results or conclusions.

Adams Broadwell Joseph & Cardoza Comments

These are responses to the comments:

1. Comment: The Commenter claims that substantial evidence supports a fair argument that the project may result in significant air quality impacts because the analysis relied upon the CalEEMod model and did not properly compute fugitive dust emissions associated with construction opf the project.

The CalEEMod model is recommended by the Bay Area Air Quality Management District (BAAQMD) as

part of the tools for conducting air quality analysis of projects in accordance with their CEQA Air Quality Guidelines. The model has been routinely used for these types of analysis on projects conducted throughout the Bay Area. When recommending significance thresholds for project construction, the BAAQMD specifically did not identify quantitative emission thresholds for fugitive dust. Rather BAAQMD recommended that the level of significance be tied to the appropriate level of dust control (e.g., application of Best Management Practices). The IS/MND identified best management practices for a project of this type.

2. The commenter claims that the construction period emissions are underestimated because annual construction emissions were used rather than maximum daily emissions.

As explained by the Commenter, annual construction emissions were computed using CalEEMod. The total emissions over the construction period were divided by the number of construction workdays to compute the average daily construction emissions, such that these emissions could be compared to the thresholds for reactive organic gases (ROG), nitrogen oxides (NOx), respirable particulate matter (PM10) exhaust, and fine particulate matter (PM2.5) exhaust. The thresholds used in the IS/MND and recommended in the BAAQMD CEQA Air Quality Guidelines are "Average Daily" Emissions. Those guidelines do not have thresholds for maximum daily emissions. The City uses the thresholds recommended in the BAAQMD CEQA Air Quality Guidelines. It should be noted that the IS/MND air quality analysis identified construction period emissions as significant and identified Mitigation Measure MM AIR-1 to reduce exhaust and fugitive dust emissions from project construction activities.

3. The commenter claims that the IS/MND failed to evaluate whether increases in ozone precursors from the Project would cause or contribute to additional violations of ambient air quality standards for ozone.

The IS/MND air quality analysis identified significant impacts from emissions of NOx during both construction and operation of the project. Mitigation Measures MM AIR-1 and MM AIR-2 would reduce the project emissions to below the significance. NOx is a precursor to ozone and for that reason, BAAQMD has established an emissions significance threshold for NOx and ROG (another ozone precursor pollutant). The BAAQMD CEQA Guidelines (page 2-1) recognize that no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality is considered significant. This project by itself does not cause or contribute measurably to a violation of an ozone ambient air quality impact. To stress this point, the project unmitigated could emit NOx of 75 pounds per average day during construction and 60 pounds per average day during operation. Ozone is a regional air pollutant affected regionally by emissions of ROG and NOx. Throughout the air basin, the California Air Resources Board reports 2012 emissions of NOx at 588 tons per day (1,176,000 pounds per day). The project emissions would represent such a small fraction of a percent of the basin-wide emissions.

4. The commenter claims that NOx emissions from the emergency generators are significant and unmitigated.

The IS/MND air quality analysis identified significant impacts from emissions of NOx during operation and identified Mitigation Measure MM AIR-2 to mitigate these emissions to a less than significant level by restricting the number of hours that the generators operate. Per direction by BAAQMD, emissions from routine testing and maintenance were only considered in the analysis. The procedure is in accordance with BAAQMD Regulation 2, Rule 5 and the number of non-emergency operation hours per year is limited to 50 hours per the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Section 93115, Title 17 CCR). The District's procedure for permitting emergency generators is to consider

operation of the generators for up to 50 hours per year. There is no way to reliably predict the number of hours that a power outage would occur but it is expected to be a low number of hours on an annual basis.

The thresholds used in the IS/MND are based on average daily emissions. The evaluation of emissions in the IS/MND air quality analysis included two conservative assumptions regarding daily emissions computations: first, it assumed that emissions all occur at 100-percent load during testing and included only average emissions for each day that testing occurs. Since the facility operates every day and generator testing could occur any day, the emissions could have been averaged over 365 days, resulting in much lower daily emissions.

5. The commenter claims that all feasible mitigation must be required for construction related fugitive PM10 and PM2.5 emissions.

The IS/MND air quality analysis identified best management practices to reduce PM10 and PM2.5 emissions per the thresholds and guidance provided in the BAAQMD CEQA Air Quality Guidelines.

6. The commenter claims that ROG emissions (evaporative emissions) from diesel fuel storage and transfer could be significant during project operation.

The IS/MND air quality analysis did not quantify these emissions because they are considered to small to substantially contribute to project emissions. Diesel fuel has a low volatility, and therefore, evaporative emissions are low. To further emphasize this, emissions were roughly computed.

The project would use twenty-four 10,000 gallon diesel storage tanks. With each tank serving 5 emergency generators. The tanks would be located under each block of 5 generators and would be of a horizontal rectangular configuration with dimensions of about 5 feet high, 11 feet wide and 25' long. Based on the engine specifications the diesel fuel use at 100% load is 41 gal/hr. At 50 hours per year this gives 2,050 gal/year/engine. For each block of 5 generators (one 10,000 gal tank) the fuel use would be 10,250 gallons.

Using the U.S. EPA Tanks 4.09d emissions model for storage tank emissions, annual ROG emissions from a 10,000 gallon fixed roof horizontal tank located in the San Francisco Bay Area were calculated. The annual emissions from one tank using 10,000 gallons per year would be 4.98 pounds per year. These emission calculations include emissions associated with "breathing" and "working loss". The working loss emissions are from tank filling. The total ROG emissions from 24 storage tanks would be roughly 120 pounds per year. These emissions are considered negligible.

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M E M O

Date: April 16, 2018, 2018

To: **Michael Lisenbee**
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From: James A. Reyff
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RE: 2305 Mission College Blvd Data Center Project (formerly Aligned Data Center)

SUBJECT: Response to Comments on Air Quality Job#17-069

This memo addresses technical comments regarding the air quality study for the 2305 Mission College Blvd Data Center Project, formerly referred to as the Aligned Data Center. This air quality study was prepared by Illingworth & Rodkin, Inc., dated April 20, 2017. Comments were made by Lozeau Drury LLP, dated March 30, 2018.

Updated CalEEMod Modeling

The CalEEMod modeling is the basis of the prediction of construction period emissions and operational-period, non-stationary sources, emissions. The CalEEMod modeling results were used to develop mitigation measures to reduce construction period emissions of nitrogen oxides (NOx), diesel particulate matter (DPM) exhaust and fine particulate matter emissions. The mitigation measures are intended to reduce average daily construction period NOx emissions below the emission-based threshold used by the City and reduce construction period health risks (in terms of increased lifetime cancer risk to potential infants residing near the project).

The CalEEMod modeling was based on specific construction information requested for this project that included the schedule for different construction phases, equipment usage assumptions (in terms of the types, quantity, number of days and hours per day that equipment would be used), estimates of demolition material, estimates of soil to be imported and exported, estimates of cement deliveries, and estimates of asphalt delivery. These construction activity assumptions were provided in a worksheet that is attached to this memo.

The provided construction worksheet erroneously included an incorrect square footage for the project building size of 400,000 square feet. This was entered into the CalEEMod model. Many of the comments regarding air quality are related to a claim that emissions were underestimated because the project building square footage is incorrect. It was confirmed in an email you sent to us on April 4, 2018 that the construction assumptions provided and used in the air quality modeling were based on the actual proposed project size of 495,600 square feet. The size of the project entered in the provided worksheet was a typographical error. The construction emission estimates from the CalEEMod modeling are based primarily on the assumptions provided and not the actual size of the project. The CalEEMod modeling was revised to reflect the actual project building size and included the same schedule and assumptions that were previously provided. The revised modeling produced essentially the same results (see attachment). The change in building size may have affected the outcome if the analysis relied on CalEEMod to set default assumptions for construction activity. This analysis used project-specific information that reflects the project setting, unique type of building and project schedule.

Lozeau Drury LLP Comments

These are responses to the comments:

1. Comment: The project will create significant cancer risks in the nearby residential community due to diesel exhaust. The commenter's consultant, SWAPE, concludes that the Project will create cancer risks in the nearby residential community more than twenty times above the BAAQMD'S CEQA significance threshold. The IS\MND erroneously concludes that the Project's cancer risks will be less than significant, but this is because the IS\MND fails to apply the proper cancer risk calculation methodology established by the California Office of Environmental Health Hazard Assessment ("OEHHA"), the California Air Resources Board (CARB) and by BAAQMD.

The air quality analysis conducted for the project found that, without appropriate mitigation, the project would result in significant cancer risk at the nearby residential neighborhood. This is because cancer risk from temporary construction activities would result in exposures to diesel particulate matter exhaust and if there are infants present, their lifetime cancer risk could increase by over 10 chances per million. The IS/MND identified appropriate mitigation to reduce this impact to less than significant (i.e., lifetime cancer risk of less than 10 per million).

The Commenter had air quality modeling of the project conducted that did not include assumptions reflective of the proposed project and concluded impacts would be much higher. In examining the exhibit to the comment letter (an analysis conducted by SWAPE), we find several flaws with their analysis. For example, the SWAPE CalEEMod modeling relied upon generic construction assumptions, no-specific design of the project and most of all, a screening model. The air quality analysis for the project relied upon refined modeling techniques, using the project-specific construction assumptions, project design, project specific regarding they generators and their emission rates and parameters (e.g., stack dimensions, exhaust exit velocities, exhaust temperature, etc…), building dimensions to account for plume downwash effects, and most importantly – the more sophisticated model, U.S. EPA's AERMOD dispersion model, which is recommended by the BAAQMD. That model uses historical meteorological data representative of the area. A discussion of the modeling is included in the air quality report.

SWAPE's use of generic modeling assumptions in CalEEMod and use of a screening model (AERSCREEN model) to describe the actual impacts of the facility are misleading. Screening models are typically used to

identify whether or not a potential for adverse air quality impacts exists. As stated by SWAPE (p.7) "If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project." As explained above, a refined modeling approach using the AERMOD model was employed in the IS/MND.

The commenter claims that the IS/MND erroneously concludes that the Project's cancer risks will be less than significant. It should be clarified that the air quality analysis found several impacts to be significant and identified mitigation measures that reduced these impacts to a less-than-significant level. These include:

Impact AIR-1 for construction period emissions, where NOx emissions from were found to be above the emission threshold and fugitive dust PM10 and PM2.5 emission may not be properly controlled. Standard required measures to properly control fugitive dust emissions of PM10 andPM2.5 were identified in the IS/MND along with mitigation measure MM AIR-1, which includes exhaust control measures to further reduce NOx and particulate matter emissions.

Impact AIR-2 for operation, where NOx emissions from routine testing and maintenance running of generator engines combined with the building area and traffic emissions would exceed emission thresholds. Mitigation Measure MM AIR-2 limits the number of hours testing can be conducted to less than the maximum 50 hours per engine allowable by BAAQMD and CARB.

Impact AIR-3 for health risk impacts, where construction activities would cause significant cancer risk and annual PM2.5 exposure. Standard required dust control measures would reduce exhaust PM2.5 and fugitive PM2.5 emissions such that the cancer risk and the annual concentration of PM2.5 from project construction and operation would below the significance thresholds.

The commenter states that the analysis "fails to apply the proper cancer risk calculation methodology established by the California Office of Environmental Health Hazard Assessment ("OEHHA"), the California Air Resources Board (CARB) and by BAAQMD." However, this is incorrect statement. Attachment 3 of the air quality report includes a description of how the community risk methodology was applied that includes parameters for computing cancer risk, consistent with current OEHHA and BAAQMD guidance. Note that the commenter does not provide any specific details or justification for their erroneous statement.

2. Comment: The project will have significant nitrogen oxide (NOx) emission impacts and that their analysis concludes that project emissions would be almost five times above the BAAQMD CEQA significance threshold.

The IS/MND found that the project would generate significant NOx emissions, both during construction and operation. As discussed in response to Comment 1, above, mitigation measures to reduce these emissions were identified and the subsequent analysis of those mitigation measures determined that the emissions would be reduced to a level of less than significant (i.e., emissions of NOx below the significance threshold).

The comment regarding the higher NOx modeling is based on the Commenter's consultants CalEEMod modeling of construction activities that did not use the project-specific construction assumptions and computed the maximum daily emission rate. In fact, the Commenter's consultant developed a scenario that does not represent either the CalEEMod default conditions or the proposed project conditions. The construction period emissions threshold used by the City is based on the "average daily" emissions, which were computed and reported in the IS/MND.

3. Comment: The IS/MND air quality analysis made unauthorized adjustments and manipulated the air quality model without proper justification.

As described above, the modeling was based on project-specific construction assumptions regarding the schedule, amount of construction equipment activity, truck traffic and worker vendor traffic. Use of these assumptions increase the accuracy of the model rather than relying on model default assumptions for the most similar land use in the model's limited selection of land use types. To account for project-specific construction activity, the model was adjusted to include the following:

Phasing. Appropriate phases and durations of those phases (including the addition of a trenching phase that CalEEMod does not include). Note that these phase durations are much longer than the CalEEMod model default assumptions.

Equipment Activity. Equipment usage assumptions in terms of quantity, type, number of hours per day that equipment would be used, and the number of days that the equipment would be used so that the average hours per day across the entire phase could be entered to the model. In general, the hours per day estimate are less than the model defaults and reasons for this are than equipment is not used 100 percent of the day across an entire phase and the phase durations entered are longer than the CalEEMod defaults.

Demolition. The amount of demolition material to be exported, which is entered in terms of building square footage that will be demolished and pavement that would be demolished was entered in terms of additional demolition truck trips.

Site Preparation. The amount material to be exported was entered into the model. The model uses this to compute haul truck trips for this phase.

Grading. The amount material to be imported was entered into the model. The model uses this to compute haul truck trips for this phase.

Trenching. This was an <u>additional</u> phase added to CalEEMod as it is part of the project and would require the use of tractors/loaders/backhoes and excavators over 60 workdays

Building Exterior. Although CalEEMod includes cement truck deliveries as part of the default vendor trip computations, the IS/MND analysis conservatively added the projected 6,500 cement roundtrip deliveries as Heavy-Duty trucks, which can only be entered in the "Haul" trip category and assigned their trip lengths to be the same as vendor trip lengths. These are not haul trips. The addition of these trips is conservative and the Commenter is claiming that the use of the vendor trip length is a change to the defaults. Note that the addition of these trips is a change to the default modeling condition that results in greater emissions. Note that CalEEMod assumes 15,840 vendor trips during building construction, which are in addition to the cement truck trips assumed in the IS/MND modeling.

Paving. The project would have a relatively small parking area that is reflective of the shorter paving duration than would be assigned under the CalEEMod default schedule. The number of asphalt truck trip deliveries was entered into CalEEMod in a similar manner as the cement truck trips. Note that CalEEMod does not require the input of asphalt delivery truck trips, as these are assumed to be included in building phase vendor truck trips.

SWAPE Comments (Exhibit A)

1. Unsubstantiated Input Parameters

See response to #3 above.

2. Failure to include All Land Uses

See discussion above regarding updated CalEEMod modeling. The data center project equipment and traffic assumptions include a 10-day phase for paving and the entire project site acreage.

3. Unsubstantiated Reduction in Hauling Truck Trip Length

See response to #3 above. Note that truck trip haul lengths were changed only for the cement truck delivery and asphalt truck delivery trip lengths. There are no default model trip lengths for cement or asphalt deliveries because this is not a requested input to CalEEMod. The cement and asphalt delivery trips are assumed to be more representative of a vendor trip length.

For the health risk assessment, all vehicle trip lengths were reduced to one mile to account for on and near site traffic emissions. Emissions from traffic more than 0.25 miles from the site would have no contribution to the health risk impacts from the project.

4. Updated Analysis Indicates Significant Criteria Air Pollutant Emissions

See response to #3 above.

5. Diesel Particulate Matter Inadequately Evaluated

As described in responses to comments 1 – 3, and the explained updated CalEEMod modeling, the IS/MND relied upon the best estimates of diesel particulate matter and PM2.5 emissions generated by construction of the project.

The Commenter claims that the analysis did not include all emission sources in the health risk assessment because it did not include the contribution of the 55 daily trips, which most would be light-duty vehicles. These trips would have a minor effect on health risk when compared with the routine testing and maintenance operation of the diesel generator engines. The CalEEMod modeling indicates that vehicle exhaust emissions would be 0.001 tons per year, which would be about 1 percent of the emissions predicted from the generators. However, only a fraction of those emissions would be diesel particulate matter emissions that makeup much of the TAC portion of motor vehicle emissions. So, the IS/MND air quality analysis may have under predicted the cancer risk by up to 1%, a very small amount, by not including the daily traffic expected from the project. Additionally, it should be noted that these vehicles would be traveling in the vicinity of the central and southern portions of the Project site, not in the vicinity of the nearby residences north of the Project site. Furthermore, the existing site is a similar type of industrial use that likely produces similar traffic that was not considered in the health risk.

6. Updated Health Risk Assessment (prepared by SWAPE) Indicates Significant Health Risks

As discussed in response to comments #1 and #2, the health risk assessment prepared the Commenter includes inputs in terms of construction equipment usage and vehicle travel that exaggerate construction emissions, especially those emissions locally that would affect the nearby sensitive receptors. The Commenter then goes on to input this information plus the emissions from the project operation into a screening model, AERSCREEN, and produced, a not surprisingly, high cancer risk. The two primary

reasons for this high cancer risk is the Commenter's use of overestimated construction period emissions and improper use of a EPA regulatory dispersion model to purposely misinform the public.

Most egregious is the statement that "the Environmental Protection Agency (EPA) recommends AERSCREEN as the leading air dispersion model, due to improvements in simulating local meteorological conditions based on simple inputs." This and other statements made by the Commenter are intended to leave the public to believe that AERSCREEN is a superior model for this analysis, which is completely false. The facts are that according to the U.S. EPA (40 CFR Part 51, Appendix W – Guidelines on Air Quality Models), there are generally two levels of sophistication of air quality models. The first level consists of screening models that provide conservative modeled estimates of the air quality impact of a specific source or source category based on simplified assumptions of the model inputs (e.g., preset, worst-case meteorological conditions). If a screening model indicates that the increase in concentration attributable to the source could cause or exacerbate air quality conditions, then the second level of more sophisticated refined models should be applied unless appropriate controls or operational restrictions are implemented based on the screening modeling. AERSCREEN is a first-level screening model that is designed to provide a conservative (i.e., overestimate) of air pollutant impacts. The AERMOD dispersion model is a refined dispersion model and is also the BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[1]

The Commenter then goes on to acknowledge that the updated health risk assessment presented is a "screening level HRA" and that a a more refined HRA must be prepared using site-specific meteorology and site-specific equipment usage schedules. The IS/MND air quality analysis provided that refined assessment that the Commenter is recommending.

7. Mitigation Measures Available to Reduce Construction Emissions

The Commenter recommends numerous measures to reduce construction-period emissions. The IS/MND air quality analysis identified construction period emissions as significant and developed mitigation measure MM AIR-1 to reduce construction period emissions such that impacts would be reduced to a level of less than significant.

8. Feasible Mitigation Measures Available to Reduce Operational Emissions

The Commenter recommends numerous measures to reduce operational-period emissions. These measures are aimed at reducing worker trip emissions that account for less than 1 percent of the project NOx emissions, which are the emissions identified as significant. Much of the emissions are from generator diesel engine testing (95%), followed by area source emissions. It should be noted that the project is proposing to use diesel powered engines that incorporates U.S. EPA Tier 4 engines standards. These are the most stringent standards applied to diesel engines. The IS/MND air quality analysis identified operational-period emissions as significant and developed mitigation measure MM AIR-2 to reduce those emissions by placing limitations on generator diesel engine testing such that impacts would be reduced to a level of less than significant.

1 Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

Aligned Data Center, Criteria Emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	495.60	1000sqft	15.00	495,600.00	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)	547	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVP current rate

Land Use - 400,000 sf data center building

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided Equipment List-need to check?

Off-road Equipment - Applicant provided Equipment List

Off-road Equipment - Applicant provided Equipment List

Off-road Equipment - Applicant provided Equipment List

Off-road Equipment - Applicant provided Equipment List

Off-road Equipment - Applicant provided Equipment List

Off-road Equipment - Applicant provided Equipment List

Trips and VMT - Demolition trips= 1683+(9500/20*2)
6500 cement truck trips during building construction

Demolition - 370000 buildung square feet
9500 tons of pavement inluded in demolition trips

Grading - 46000 cy of soil imported during grading
22410 cy of soil exported during site preparation

Vehicle Trips - Based on 55 daily trips projected

Energy Use -

Construction Off-road Equipment Mitigation - Best Management Practices Tier 3/Level 2 DPF Mitigation

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 1

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tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	140.00
tblConstructionPhase	NumDays	300.00	240.00
tblConstructionPhase	NumDays	20.00	100.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	80.00
tblGrading	MaterialExported	0.00	22,410.00
tblGrading	MaterialImported	0.00	46,000.00
tblLandUse	LotAcreage	11.38	15.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.20
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	547
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	1,683.00	2,633.00
tblTripsAndVMT	HaulingTripNumber	0.00	13,000.00
tblTripsAndVMT	VendorTripNumber	81.00	66.00
tblTripsAndVMT	WorkerTripNumber	208.00	168.00
tblTripsAndVMT	WorkerTripNumber	42.00	34.00
tblVehicleTrips	ST_TR	1.32	0.14
tblVehicleTrips	SU_TR	0.68	0.14
tblVehicleTrips	WD_TR	6.97	0.14

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					
2017	0.4007	4.2395	2.2566	5.2100e-003	0.4270	0.2021	0.6291	0.1339	0.1908	0.3247	0.0000	480.3886	480.3886	0.0799	0.0000	482.3849
2018	3.3267	8.3514	4.6943	0.0146	0.6503	0.2859	0.9362	0.2239	0.2677	0.4916	0.0000	1,351.6151	1,351.6151	0.1754	0.0000	1,356.0010
Maximum	**3.3267**	**8.3514**	**4.6943**	**0.0146**	**0.6503**	**0.2859**	**0.9362**	**0.2239**	**0.2677**	**0.4916**	**0.0000**	**1,351.6151**	**1,351.6151**	**0.1754**	**0.0000**	**1,356.0010**

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					
2017	0.1346	2.7015	2.3442	5.2100e-003	0.4270	0.0513	0.4782	0.0798	0.0511	0.1309	0.0000	480.3882	480.3882	0.0799	0.0000	482.3845
2018	2.9303	6.3095	4.8321	0.0146	0.6503	0.0966	0.7469	0.1608	0.0958	0.2565	0.0000	1,351.6145	1,351.6145	0.1754	0.0000	1,356.0005
Maximum	**2.9303**	**6.3095**	**4.8321**	**0.0146**	**0.6503**	**0.0966**	**0.7469**	**0.1608**	**0.0958**	**0.2565**	**0.0000**	**1,351.6145**	**1,351.6145**	**0.1754**	**0.0000**	**1,356.0005**

	ROG	NOx	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	**17.78**	**28.43**	**-3.24**	**0.00**	**0.00**	**69.71**	**21.73**	**32.76**	**67.98**	**52.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2017**	**11-30-2017**	2.8440	1.7522
2	**12-1-2017**	**2-28-2018**	6.2342	4.2537
3	**3-1-2018**	**5-31-2018**	1.8521	1.4242
4	**6-1-2018**	**8-31-2018**	2.8455	2.4309
5	**9-1-2018**	**9-30-2018**	0.8982	0.7741
		Highest	6.2342	4.2537

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	2.1944	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-003
Energy	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	1,713.3722	1,713.3722	0.0672	0.0239	1,722.1844
Mobile	0.0226	0.0992	0.2880	8.8000e-004	0.0753	1.0000e-003	0.0763	0.0202	9.4000e-004	0.0211	0.0000	80.3724	80.3724	2.9400e-003	0.0000	80.4460
Waste						0.0000	0.0000		0.0000	0.0000	124.7461	0.0000	124.7461	7.3723	0.0000	309.0531
Water						0.0000	0.0000		0.0000	0.0000	36.3597	153.8664	190.2260	3.7426	0.0899	310.5725
Total	**2.2875**	**0.7402**	**0.8309**	**4.7300e-003**	**0.0753**	**0.0497**	**0.1251**	**0.0202**	**0.0497**	**0.0698**	**161.1057**	**1,947.6198**	**2,108.7255**	**11.1851**	**0.1138**	**2,422.2654**

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	2.1944	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-003
Energy	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	1,713.3722	1,713.3722	0.0672	0.0239	1,722.1844
Mobile	0.0226	0.0992	0.2880	8.8000e-004	0.0753	1.0000e-003	0.0763	0.0202	9.4000e-004	0.0211	0.0000	80.3724	80.3724	2.9400e-003	0.0000	80.4460
Waste						0.0000	0.0000		0.0000	0.0000	124.7461	0.0000	124.7461	7.3723	0.0000	309.0531
Water						0.0000	0.0000		0.0000	0.0000	36.3597	153.8664	190.2260	3.7426	0.0899	310.5725
Total	**2.2875**	**0.7402**	**0.8309**	**4.7300e-003**	**0.0753**	**0.0497**	**0.1251**	**0.0202**	**0.0497**	**0.0698**	**161.1057**	**1,947.6198**	**2,108.7255**	**11.1851**	**0.1138**	**2,422.2654**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Aligned Data Center, Criteria Emissions - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2017	1/18/2018	5	100	
2	Site Preparation	Site Preparation	11/15/2017	3/6/2018	5	80	
3	Trenching	Trenching	12/15/2017	3/8/2018	5	60	
4	Building Construction	Building Construction	12/15/2017	11/15/2018	5	240	
5	Grading	Grading	1/15/2018	2/9/2018	5	20	
6	Interior - Architectural Coating	Architectural Coating	5/15/2018	11/26/2018	5	140	
7	Paving	Paving	7/11/2018	7/24/2018	5	10	

Acres of Grading (Site Preparation Phase): 40

Acres of Grading (Grading Phase): 50

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 743,400; Non-Residential Outdoor: 247,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Aligned Data Center, Criteria Emissions - Santa Clara County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	4	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	2.00	85	0.78
Demolition	Excavators	4	4.00	158	0.38
Demolition	Rubber Tired Dozers	4	4.80	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.80	97	0.37
Site Preparation	Graders	2	4.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	4.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	4.00	97	0.37
Grading	Excavators	3	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Trenching	Excavators	3	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	3	4.20	231	0.29
Building Construction	Forklifts	2	10.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Interior - Architectural Coating	Aerial Lifts	1	6.00	63	0.31
Interior - 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	15	38.00	0.00	2,633.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	9	23.00	0.00	2,801.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	10	25.00	0.00	5,750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	168.00	66.00	13,000.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Interior - Architectural Coating	2	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2017

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					0.1566	0.0000	0.1566	0.0237	0.0000	0.0237	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2818	2.6597	1.5805	2.6400e-003		0.1528	0.1528		0.1451	0.1451	0.0000	236.8629	236.8629	0.0511	0.0000	238.1392
Total	**0.2818**	**2.6597**	**1.5805**	**2.6400e-003**	**0.1566**	**0.1528**	**0.3094**	**0.0237**	**0.1451**	**0.1688**	**0.0000**	**236.8629**	**236.8629**	**0.0511**	**0.0000**	**238.1392**

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	0.0127	0.4025	0.0792	9.2000e-004	0.0215	2.2800e-003	0.0238	5.8500e-003	2.1800e-003	8.0300e-003	0.0000	88.7963	88.7963	4.3200e-003	0.0000	88.9042
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	7.3900e-003	5.8200e-003	0.0589	1.3000e-004	0.0130	9.0000e-005	0.0131	3.4500e-003	8.0000e-005	3.5300e-003	0.0000	12.1593	12.1593	4.1000e-004	0.0000	12.1695
Total	**0.0201**	**0.4083**	**0.1381**	**1.0500e-003**	**0.0345**	**2.3700e-003**	**0.0369**	**9.3000e-003**	**2.2600e-003**	**0.0116**	**0.0000**	**100.9556**	**100.9556**	**4.7300e-003**	**0.0000**	**101.0737**

3.2 Demolition - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1566	0.0000	0.1566	0.0119	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0792	1.6045	1.6356	2.6400e-003		0.0371	0.0371		0.0371	0.0371	0.0000	236.8626	236.8626	0.0511	0.0000	238.1389
Total	**0.0792**	**1.6045**	**1.6356**	**2.6400e-003**	**0.1566**	**0.0371**	**0.1937**	**0.0119**	**0.0371**	**0.0490**	**0.0000**	**236.8626**	**236.8626**	**0.0511**	**0.0000**	**238.1389**

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	0.0127	0.4025	0.0792	9.2000e-004	0.0215	2.2800e-003	0.0238	5.8500e-003	2.1800e-003	8.0300e-003	0.0000	88.7963	88.7963	4.3200e-003	0.0000	88.9042
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	7.3900e-003	5.8200e-003	0.0589	1.3000e-004	0.0130	9.0000e-005	0.0131	3.4500e-003	8.0000e-005	3.5300e-003	0.0000	12.1593	12.1593	4.1000e-004	0.0000	12.1695
Total	**0.0201**	**0.4083**	**0.1381**	**1.0500e-003**	**0.0345**	**2.3700e-003**	**0.0369**	**9.3000e-003**	**2.2600e-003**	**0.0116**	**0.0000**	**100.9556**	**100.9556**	**4.7300e-003**	**0.0000**	**101.0737**

3.2 Demolition - 2018

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					0.0255	0.0000	0.0255	3.8600e-003	0.0000	3.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0416	0.3940	0.2510	4.3000e-004		0.0220	0.0220		0.0209	0.0209	0.0000	38.2015	38.2015	8.1400e-003	0.0000	38.4050
Total	**0.0416**	**0.3940**	**0.2510**	**4.3000e-004**	**0.0255**	**0.0220**	**0.0475**	**3.8600e-003**	**0.0209**	**0.0247**	**0.0000**	**38.2015**	**38.2015**	**8.1400e-003**	**0.0000**	**38.4050**

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	1.7600e-003	0.0604	0.0118	1.5000e-004	0.0175	2.4000e-004	0.0177	4.3900e-003	2.3000e-004	4.6200e-003	0.0000	14.3448	14.3448	6.8000e-004	0.0000	14.3617
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	8.2000e-004	8.3900e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.9248	1.9248	6.0000e-005	0.0000	1.9262
Total	**2.8300e-003**	**0.0612**	**0.0201**	**1.7000e-004**	**0.0196**	**2.5000e-004**	**0.0199**	**4.9500e-003**	**2.4000e-004**	**5.1900e-003**	**0.0000**	**16.2695**	**16.2695**	**7.4000e-004**	**0.0000**	**16.2879**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0255	0.0000	0.0255	1.9300e-003	0.0000	1.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.2612	0.2663	4.3000e-004		6.0400e-003	6.0400e-003		6.0400e-003	6.0400e-003	0.0000	38.2015	38.2015	8.1400e-003	0.0000	38.4050
Total	**0.0129**	**0.2612**	**0.2663**	**4.3000e-004**	**0.0255**	**6.0400e-003**	**0.0315**	**1.9300e-003**	**6.0400e-003**	**7.9700e-003**	**0.0000**	**38.2015**	**38.2015**	**8.1400e-003**	**0.0000**	**38.4050**

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	1.7600e-003	0.0604	0.0118	1.5000e-004	0.0175	2.4000e-004	0.0177	4.3900e-003	2.3000e-004	4.6200e-003	0.0000	14.3448	14.3448	6.8000e-004	0.0000	14.3617
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	8.2000e-004	8.3900e-003	2.0000e-005	2.1100e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.9248	1.9248	6.0000e-005	0.0000	1.9262
Total	**2.8300e-003**	**0.0612**	**0.0201**	**1.7000e-004**	**0.0196**	**2.5000e-004**	**0.0199**	**4.9500e-003**	**2.4000e-004**	**5.1900e-003**	**0.0000**	**16.2695**	**16.2695**	**7.4000e-004**	**0.0000**	**16.2879**

3.3 Site Preparation - 2017

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					0.1715	0.0000	0.1715	0.0844	0.0000	0.0844	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5901	0.2352	4.6000e-004		0.0289	0.0289		0.0266	0.0266	0.0000	42.2917	42.2917	0.0130	0.0000	42.6156
Total	**0.0523**	**0.5901**	**0.2352**	**4.6000e-004**	**0.1715**	**0.0289**	**0.2005**	**0.0844**	**0.0266**	**0.1110**	**0.0000**	**42.2917**	**42.2917**	**0.0130**	**0.0000**	**42.6156**

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	6.5000e-003	0.2054	0.0404	4.7000e-004	0.0202	1.1600e-003	0.0214	5.2600e-003	1.1100e-003	6.3700e-003	0.0000	45.3088	45.3088	2.2000e-003	0.0000	45.3639
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3500e-003	0.0137	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.8240	2.8240	9.0000e-005	0.0000	2.8264
Total	**8.2200e-003**	**0.2067**	**0.0541**	**5.0000e-004**	**0.0233**	**1.1800e-003**	**0.0244**	**6.0600e-003**	**1.1300e-003**	**7.1900e-003**	**0.0000**	**48.1328**	**48.1328**	**2.2900e-003**	**0.0000**	**48.1903**

3.3 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1715	0.0000	0.1715	0.0422	0.0000	0.0422	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.2240	0.2642	4.6000e-004		5.1700e-003	5.1700e-003		5.1700e-003	5.1700e-003	0.0000	42.2916	42.2916	0.0130	0.0000	42.6156
Total	**0.0111**	**0.2240**	**0.2642**	**4.6000e-004**	**0.1715**	**5.1700e-003**	**0.1767**	**0.0422**	**5.1700e-003**	**0.0474**	**0.0000**	**42.2916**	**42.2916**	**0.0130**	**0.0000**	**42.6156**

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	6.5000e-003	0.2054	0.0404	4.7000e-004	0.0202	1.1600e-003	0.0214	5.2600e-003	1.1100e-003	6.3700e-003	0.0000	45.3088	45.3088	2.2000e-003	0.0000	45.3639
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3500e-003	0.0137	3.0000e-005	3.0100e-003	2.0000e-005	3.0300e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.8240	2.8240	9.0000e-005	0.0000	2.8264
Total	**8.2200e-003**	**0.2067**	**0.0541**	**5.0000e-004**	**0.0233**	**1.1800e-003**	**0.0244**	**6.0600e-003**	**1.1300e-003**	**7.1900e-003**	**0.0000**	**48.1328**	**48.1328**	**2.2900e-003**	**0.0000**	**48.1903**

3.3 Site Preparation - 2018

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					0.2348	0.0000	0.2348	0.1192	0.0000	0.1192	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0694	0.7822	0.3221	6.5000e-004		0.0373	0.0373		0.0343	0.0343	0.0000	59.2476	59.2476	0.0184	0.0000	59.7087
Total	**0.0694**	**0.7822**	**0.3221**	**6.5000e-004**	**0.2348**	**0.0373**	**0.2721**	**0.1192**	**0.0343**	**0.1535**	**0.0000**	**59.2476**	**59.2476**	**0.0184**	**0.0000**	**59.7087**

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	7.8800e-003	0.2697	0.0525	6.6000e-004	0.0213	1.0800e-003	0.0224	5.6300e-003	1.0300e-003	6.6700e-003	0.0000	64.0376	64.0376	3.0200e-003	0.0000	64.1131
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	2.1800e-003	1.6700e-003	0.0171	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.9110	3.9110	1.2000e-004	0.0000	3.9140
Total	**0.0101**	**0.2714**	**0.0695**	**7.0000e-004**	**0.0256**	**1.1100e-003**	**0.0267**	**6.7700e-003**	**1.0600e-003**	**7.8400e-003**	**0.0000**	**67.9486**	**67.9486**	**3.1400e-003**	**0.0000**	**68.0271**

3.3 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2348	0.0000	0.2348	0.0596	0.0000	0.0596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.3190	0.3763	6.5000e-004		7.3600e-003	7.3600e-003		7.3600e-003	7.3600e-003	0.0000	59.2475	59.2475	0.0184	0.0000	59.7086
Total	**0.0159**	**0.3190**	**0.3763**	**6.5000e-004**	**0.2348**	**7.3600e-003**	**0.2421**	**0.0596**	**7.3600e-003**	**0.0669**	**0.0000**	**59.2475**	**59.2475**	**0.0184**	**0.0000**	**59.7086**

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	7.8800e-003	0.2697	0.0525	6.6000e-004	0.0213	1.0800e-003	0.0224	5.6300e-003	1.0300e-003	6.6700e-003	0.0000	64.0376	64.0376	3.0200e-003	0.0000	64.1131
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	2.1800e-003	1.6700e-003	0.0171	4.0000e-005	4.2900e-003	3.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.9110	3.9110	1.2000e-004	0.0000	3.9140
Total	**0.0101**	**0.2714**	**0.0695**	**7.0000e-004**	**0.0256**	**1.1100e-003**	**0.0267**	**6.7700e-003**	**1.0600e-003**	**7.8400e-003**	**0.0000**	**67.9486**	**67.9486**	**3.1400e-003**	**0.0000**	**68.0271**

3.4 Trenching - 2017

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	0.0128	0.1316	0.1077	1.5000e-004		8.2200e-003	8.2200e-003		7.5600e-003	7.5600e-003	0.0000	14.2538	14.2538	4.3700e-003	0.0000	14.3630
Total	**0.0128**	**0.1316**	**0.1077**	**1.5000e-004**		**8.2200e-003**	**8.2200e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**14.2538**	**14.2538**	**4.3700e-003**	**0.0000**	**14.3630**

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	4.5000e-004	3.5000e-004	3.5700e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7367	0.7367	2.0000e-005	0.0000	0.7373
Total	**4.5000e-004**	**3.5000e-004**	**3.5700e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.7367**	**0.7367**	**2.0000e-005**	**0.0000**	**0.7373**

3.4 Trenching - 2017

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	3.7700e-003	0.0787	0.1162	1.5000e-004		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	14.2538	14.2538	4.3700e-003	0.0000	14.3630
Total	**3.7700e-003**	**0.0787**	**0.1162**	**1.5000e-004**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**14.2538**	**14.2538**	**4.3700e-003**	**0.0000**	**14.3630**

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	4.5000e-004	3.5000e-004	3.5700e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7367	0.7367	2.0000e-005	0.0000	0.7373
Total	**4.5000e-004**	**3.5000e-004**	**3.5700e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.7367**	**0.7367**	**2.0000e-005**	**0.0000**	**0.7373**

3.4 Trenching - 2018

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	0.0473	0.4853	0.4698	6.8000e-004		0.0293	0.0293		0.0270	0.0270	0.0000	62.4520	62.4520	0.0194	0.0000	62.9381
Total	**0.0473**	**0.4853**	**0.4698**	**6.8000e-004**		**0.0293**	**0.0293**		**0.0270**	**0.0270**	**0.0000**	**62.4520**	**62.4520**	**0.0194**	**0.0000**	**62.9381**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	1.3600e-003	0.0139	4.0000e-005	3.5000e-003	2.0000e-005	3.5200e-003	9.3000e-004	2.0000e-005	9.5000e-004	0.0000	3.1911	3.1911	1.0000e-004	0.0000	3.1935
Total	**1.7800e-003**	**1.3600e-003**	**0.0139**	**4.0000e-005**	**3.5000e-003**	**2.0000e-005**	**3.5200e-003**	**9.3000e-004**	**2.0000e-005**	**9.5000e-004**	**0.0000**	**3.1911**	**3.1911**	**1.0000e-004**	**0.0000**	**3.1935**

3.4 Trenching - 2018

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	0.0168	0.3505	0.5175	6.8000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	62.4519	62.4519	0.0194	0.0000	62.9380
Total	**0.0168**	**0.3505**	**0.5175**	**6.8000e-004**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**62.4519**	**62.4519**	**0.0194**	**0.0000**	**62.9380**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	1.3600e-003	0.0139	4.0000e-005	3.5000e-003	2.0000e-005	3.5200e-003	9.3000e-004	2.0000e-005	9.5000e-004	0.0000	3.1911	3.1911	1.0000e-004	0.0000	3.1935
Total	**1.7800e-003**	**1.3600e-003**	**0.0139**	**4.0000e-005**	**3.5000e-003**	**2.0000e-005**	**3.5200e-003**	**9.3000e-004**	**2.0000e-005**	**9.5000e-004**	**0.0000**	**3.1911**	**3.1911**	**1.0000e-004**	**0.0000**	**3.1935**

3.5 Building Construction - 2017

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	0.0168	0.1297	0.0778	1.2000e-004		7.8100e-003	7.8100e-003		7.3300e-003	7.3300e-003	0.0000	10.3647	10.3647	2.9400e-003	0.0000	10.4383
Total	**0.0168**	**0.1297**	**0.0778**	**1.2000e-004**		**7.8100e-003**	**7.8100e-003**		**7.3300e-003**	**7.3300e-003**	**0.0000**	**10.3647**	**10.3647**	**2.9400e-003**	**0.0000**	**10.4383**

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	1.7000e-003	0.0577	0.0112	1.1000e-004	0.0306	2.4000e-004	0.0308	7.5600e-003	2.3000e-004	7.7900e-003	0.0000	10.2864	10.2864	7.2000e-004	0.0000	10.3044
Vendor	2.2900e-003	0.0520	0.0152	1.0000e-004	2.3900e-003	4.9000e-004	2.8800e-003	6.9000e-004	4.7000e-004	1.1600e-003	0.0000	9.6281	9.6281	5.3000e-004	0.0000	9.6415
Worker	4.1800e-003	3.2900e-003	0.0333	8.0000e-005	7.3300e-003	5.0000e-005	7.3800e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.8759	6.8759	2.3000e-004	0.0000	6.8816
Total	**8.1700e-003**	**0.1130**	**0.0597**	**2.9000e-004**	**0.0403**	**7.8000e-004**	**0.0411**	**0.0102**	**7.5000e-004**	**0.0110**	**0.0000**	**26.7905**	**26.7905**	**1.4800e-003**	**0.0000**	**26.8275**

3.5 Building Construction - 2017

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	3.5200e-003	0.0660	0.0728	1.2000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	10.3647	10.3647	2.9400e-003	0.0000	10.4383
Total	**3.5200e-003**	**0.0660**	**0.0728**	**1.2000e-004**		**1.8200e-003**	**1.8200e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**10.3647**	**10.3647**	**2.9400e-003**	**0.0000**	**10.4383**

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	1.7000e-003	0.0577	0.0112	1.1000e-004	0.0306	2.4000e-004	0.0308	7.5600e-003	2.3000e-004	7.7900e-003	0.0000	10.2864	10.2864	7.2000e-004	0.0000	10.3044
Vendor	2.2900e-003	0.0520	0.0152	1.0000e-004	2.3900e-003	4.9000e-004	2.8800e-003	6.9000e-004	4.7000e-004	1.1600e-003	0.0000	9.6281	9.6281	5.3000e-004	0.0000	9.6415
Worker	4.1800e-003	3.2900e-003	0.0333	8.0000e-005	7.3300e-003	5.0000e-005	7.3800e-003	1.9500e-003	5.0000e-005	2.0000e-003	0.0000	6.8759	6.8759	2.3000e-004	0.0000	6.8816
Total	**8.1700e-003**	**0.1130**	**0.0597**	**2.9000e-004**	**0.0403**	**7.8000e-004**	**0.0411**	**0.0102**	**7.5000e-004**	**0.0110**	**0.0000**	**26.7905**	**26.7905**	**1.4800e-003**	**0.0000**	**26.8275**

3.5 Building Construction - 2018

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	0.3032	2.3880	1.5343	2.4800e-003		0.1377	0.1377		0.1293	0.1293	0.0000	213.1661	213.1661	0.0599	0.0000	214.6642
Total	**0.3032**	**2.3880**	**1.5343**	**2.4800e-003**		**0.1377**	**0.1377**		**0.1293**	**0.1293**	**0.0000**	**213.1661**	**213.1661**	**0.0599**	**0.0000**	**214.6642**

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	0.0306	1.1310	0.2119	2.2100e-003	0.0398	3.3200e-003	0.0432	0.0109	3.1800e-003	0.0141	0.0000	213.7637	213.7637	0.0142	0.0000	214.1177
Vendor	0.0414	1.0129	0.2819	2.0900e-003	0.0497	8.1300e-003	0.0578	0.0144	7.7800e-003	0.0222	0.0000	200.0201	200.0201	0.0104	0.0000	200.2795
Worker	0.0774	0.0595	0.6066	1.5400e-003	0.1526	1.0300e-003	0.1536	0.0406	9.5000e-004	0.0415	0.0000	139.1908	139.1908	4.1800e-003	0.0000	139.2953
Total	**0.1494**	**2.2034**	**1.1004**	**5.8400e-003**	**0.2421**	**0.0125**	**0.2546**	**0.0659**	**0.0119**	**0.0778**	**0.0000**	**552.9746**	**552.9746**	**0.0287**	**0.0000**	**553.6924**

3.5 Building Construction - 2018

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	0.0732	1.3734	1.5161	2.4800e-003		0.0379	0.0379		0.0379	0.0379	0.0000	213.1659	213.1659	0.0599	0.0000	214.6639
Total	**0.0732**	**1.3734**	**1.5161**	**2.4800e-003**		**0.0379**	**0.0379**		**0.0379**	**0.0379**	**0.0000**	**213.1659**	**213.1659**	**0.0599**	**0.0000**	**214.6639**

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	0.0306	1.1310	0.2119	2.2100e-003	0.0398	3.3200e-003	0.0432	0.0109	3.1800e-003	0.0141	0.0000	213.7637	213.7637	0.0142	0.0000	214.1177
Vendor	0.0414	1.0129	0.2819	2.0900e-003	0.0497	8.1300e-003	0.0578	0.0144	7.7800e-003	0.0222	0.0000	200.0201	200.0201	0.0104	0.0000	200.2795
Worker	0.0774	0.0595	0.6066	1.5400e-003	0.1526	1.0300e-003	0.1536	0.0406	9.5000e-004	0.0415	0.0000	139.1908	139.1908	4.1800e-003	0.0000	139.2953
Total	**0.1494**	**2.2034**	**1.1004**	**5.8400e-003**	**0.2421**	**0.0125**	**0.2546**	**0.0659**	**0.0119**	**0.0778**	**0.0000**	**552.9746**	**552.9746**	**0.0287**	**0.0000**	**553.6924**

3.6 Grading - 2018

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					0.0291	0.0000	0.0291	3.2600e-003	0.0000	3.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.5532	0.3866	6.5000e-004		0.0255	0.0255		0.0234	0.0234	0.0000	59.2337	59.2337	0.0184	0.0000	59.6947
Total	**0.0475**	**0.5532**	**0.3866**	**6.5000e-004**	**0.0291**	**0.0255**	**0.0546**	**3.2600e-003**	**0.0234**	**0.0267**	**0.0000**	**59.2337**	**59.2337**	**0.0184**	**0.0000**	**59.6947**

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	0.0275	0.9425	0.1833	2.3200e-003	0.0487	3.7700e-003	0.0525	0.0134	3.6000e-003	0.0170	0.0000	223.7597	223.7597	0.0106	0.0000	224.0237
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.7000e-004	7.8800e-003	2.0000e-005	1.9800e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8090	1.8090	5.0000e-005	0.0000	1.8104
Total	**0.0285**	**0.9433**	**0.1912**	**2.3400e-003**	**0.0507**	**3.7800e-003**	**0.0545**	**0.0139**	**3.6100e-003**	**0.0175**	**0.0000**	**225.5687**	**225.5687**	**0.0106**	**0.0000**	**225.8340**

3.6 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0291	0.0000	0.0291	1.6300e-003	0.0000	1.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.3186	0.4079	6.5000e-004		8.4300e-003	8.4300e-003		8.4300e-003	8.4300e-003	0.0000	59.2336	59.2336	0.0184	0.0000	59.6946
Total	**0.0159**	**0.3186**	**0.4079**	**6.5000e-004**	**0.0291**	**8.4300e-003**	**0.0375**	**1.6300e-003**	**8.4300e-003**	**0.0101**	**0.0000**	**59.2336**	**59.2336**	**0.0184**	**0.0000**	**59.6946**

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	0.0275	0.9425	0.1833	2.3200e-003	0.0487	3.7700e-003	0.0525	0.0134	3.6000e-003	0.0170	0.0000	223.7597	223.7597	0.0106	0.0000	224.0237
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0100e-003	7.7000e-004	7.8800e-003	2.0000e-005	1.9800e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8090	1.8090	5.0000e-005	0.0000	1.8104
Total	**0.0285**	**0.9433**	**0.1912**	**2.3400e-003**	**0.0507**	**3.7800e-003**	**0.0545**	**0.0139**	**3.6100e-003**	**0.0175**	**0.0000**	**225.5687**	**225.5687**	**0.0106**	**0.0000**	**225.8340**

3.7 Interior - Architectural Coating - 2018

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	2.5842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.1777	0.1871	3.0000e-004		0.0116	0.0116		0.0115	0.0115	0.0000	25.9191	25.9191	4.2000e-003	0.0000	26.0242
Total	**2.6074**	**0.1777**	**0.1871**	**3.0000e-004**		**0.0116**	**0.0116**		**0.0115**	**0.0115**	**0.0000**	**25.9191**	**25.9191**	**4.2000e-003**	**0.0000**	**26.0242**

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	9.5800e-003	7.3600e-003	0.0751	1.9000e-004	0.0189	1.3000e-004	0.0190	5.0200e-003	1.2000e-004	5.1400e-003	0.0000	17.2216	17.2216	5.2000e-004	0.0000	17.2345
Total	**9.5800e-003**	**7.3600e-003**	**0.0751**	**1.9000e-004**	**0.0189**	**1.3000e-004**	**0.0190**	**5.0200e-003**	**1.2000e-004**	**5.1400e-003**	**0.0000**	**17.2216**	**17.2216**	**5.2000e-004**	**0.0000**	**17.2345**

3.7 Interior - Architectural Coating - 2018

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	2.5842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3300e-003	0.1445	0.1952	3.0000e-004		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	25.9191	25.9191	4.2000e-003	0.0000	26.0242
Total	**2.5906**	**0.1445**	**0.1952**	**3.0000e-004**		**5.0600e-003**	**5.0600e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**25.9191**	**25.9191**	**4.2000e-003**	**0.0000**	**26.0242**

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	9.5800e-003	7.3600e-003	0.0751	1.9000e-004	0.0189	1.3000e-004	0.0190	5.0200e-003	1.2000e-004	5.1400e-003	0.0000	17.2216	17.2216	5.2000e-004	0.0000	17.2345
Total	**9.5800e-003**	**7.3600e-003**	**0.0751**	**1.9000e-004**	**0.0189**	**1.3000e-004**	**0.0190**	**5.0200e-003**	**1.2000e-004**	**5.1400e-003**	**0.0000**	**17.2216**	**17.2216**	**5.2000e-004**	**0.0000**	**17.2345**

3.8 Paving - 2018

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	7.9200e-003	0.0827	0.0710	1.1000e-004		4.8300e-003	4.8300e-003		4.4400e-003	4.4400e-003	0.0000	9.6784	9.6784	3.0100e-003	0.0000	9.7538
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9200e-003**	**0.0827**	**0.0710**	**1.1000e-004**		**4.8300e-003**	**4.8300e-003**		**4.4400e-003**	**4.4400e-003**	**0.0000**	**9.6784**	**9.6784**	**3.0100e-003**	**0.0000**	**9.7538**

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	3.0000e-004	2.3000e-004	2.3700e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5427	0.5427	2.0000e-005	0.0000	0.5431
Total	**3.0000e-004**	**2.3000e-004**	**2.3700e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5427**	**0.5427**	**2.0000e-005**	**0.0000**	**0.5431**

3.8 Paving - 2018

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	2.6100e-003	0.0540	0.0804	1.1000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	9.6784	9.6784	3.0100e-003	0.0000	9.7538
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6100e-003**	**0.0540**	**0.0804**	**1.1000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**9.6784**	**9.6784**	**3.0100e-003**	**0.0000**	**9.7538**

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	3.0000e-004	2.3000e-004	2.3700e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5427	0.5427	2.0000e-005	0.0000	0.5431
Total	**3.0000e-004**	**2.3000e-004**	**2.3700e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5427**	**0.5427**	**2.0000e-005**	**0.0000**	**0.5431**

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	0.0226	0.0992	0.2880	8.8000e-004	0.0753	1.0000e-003	0.0763	0.0202	9.4000e-004	0.0211	0.0000	80.3724	80.3724	2.9400e-003	0.0000	80.4460
Unmitigated	0.0226	0.0992	0.2880	8.8000e-004	0.0753	1.0000e-003	0.0763	0.0202	9.4000e-004	0.0211	0.0000	80.3724	80.3724	2.9400e-003	0.0000	80.4460

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.38	69.38	69.38	202,567	202,567
Total	69.38	69.38	69.38	202,567	202,567

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	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: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,015.6976	1,015.6976	0.0539	0.0111	1,020.3638
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,015.6976	1,015.6976	0.0539	0.0111	1,020.3638
NaturalGas Mitigated	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6746	697.6746	0.0134	0.0128	701.8205
NaturalGas Unmitigated	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6746	697.6746	0.0134	0.0128	701.8205

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					
General Light Industry	1.30739e+007	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6746	697.6746	0.0134	0.0128	701.8205
Total		**0.0705**	**0.6409**	**0.5383**	**3.8500e-003**		**0.0487**	**0.0487**		**0.0487**	**0.0487**	**0.0000**	**697.6746**	**697.6746**	**0.0134**	**0.0128**	**701.8205**

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					
General Light Industry	1.30739e+007	0.0705	0.6409	0.5383	3.8500e-003		0.0487	0.0487		0.0487	0.0487	0.0000	697.6746	697.6746	0.0134	0.0128	701.8205
Total		**0.0705**	**0.6409**	**0.5383**	**3.8500e-003**		**0.0487**	**0.0487**		**0.0487**	**0.0487**	**0.0000**	**697.6746**	**697.6746**	**0.0134**	**0.0128**	**701.8205**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.09366e+006	1,015.6976	0.0539	0.0111	1,020.3638
Total		**1,015.6976**	**0.0539**	**0.0111**	**1,020.3638**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.09366e+006	1,015.6976	0.0539	0.0111	1,020.3638
Total		**1,015.6976**	**0.0539**	**0.0111**	**1,020.3638**

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	2.1944	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-003
Unmitigated	2.1944	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-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	0.2584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9356					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.4000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-003
Total	**2.1944**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.8600e-003**	**8.8600e-003**	**2.0000e-005**	**0.0000**	**9.4600e-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	0.2584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9356					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.4000e-004	4.0000e-005	4.6000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.8600e-003	8.8600e-003	2.0000e-005	0.0000	9.4600e-003
Total	**2.1944**	**4.0000e-005**	**4.6000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.8600e-003**	**8.8600e-003**	**2.0000e-005**	**0.0000**	**9.4600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	190.2260	3.7426	0.0899	310.5725
Unmitigated	190.2260	3.7426	0.0899	310.5725

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	114.608 / 0	190.2260	3.7426	0.0899	310.5725
Total		**190.2260**	**3.7426**	**0.0899**	**310.5725**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	114.608 / 0	190.2260	3.7426	0.0899	310.5725
Total		**190.2260**	**3.7426**	**0.0899**	**310.5725**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	124.7461	7.3723	0.0000	309.0531
Unmitigated	124.7461	7.3723	0.0000	309.0531

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	614.54	124.7461	7.3723	0.0000	309.0531
Total		**124.7461**	**7.3723**	**0.0000**	**309.0531**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	614.54	124.7461	7.3723	0.0000	309.0531
Total		**124.7461**	**7.3723**	**0.0000**	**309.0531**

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

Project Name: Aligned Data Center

	Project Size		**Dwelling Units**		**15**	**total project acres disturbed**					
		400,000	**s.f. light industrial**			**s.f. other, specify:**	Square footage actually 495,600sf				
			s.f. other, specify:				**Complete ALL Portions in Yellow**				
			s.f. parking garage			**spaces**					
			s.f. parking lot			**spaces**					
	Construction Hours	**7:00**	**am to**		**5:00**	**pm**					

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**9/1/2017**	**Total phase:**	**100**		**Overall Import/Export Volumes**
		End Date:	**2/1/2018**				
4	Concrete/Industrial Saws	81	0.73	8	100	8	**Demolition Volume**
1	Crushing / Processing Equip	85	0.78	8	25	2	
4	Excavators	162	0.38	8	50	4	Square footage of buildings to be demolished
4	Rubber-Tired Dozers	255	0.4	8	60	4.8	(*or* total tons to be hauled)
2	Tractors/Loaders/Backhoes	97	0.37	8	60	4.8	**370,000** square feet *or*
							_?_ Hauling volume (tons)
	Site Preperation	**Start Date:**	**11/15/2017**	**Total phase:**	**80**		Any pavement demolished and hauled? **9500 tons**
		End Date:	**3/15/2018**				**Soil Hauling Volume**
2	Graders	174	0.41	8	50	5	
3	Rubber Tired Dozers	255	0.4	8	50	5	Export volume = **_22,410_** cubic yards
4	Tractors/Loaders/Backhoes	97	0.37	8	50	5	Import volume = **_?_** cubic yards?
	Grading / Excavation	**Start Date:**	**1/15/2018**	**Total phase:**	**20**		
		End Date:	**2/15/2018**				**Soil Hauling Volume**
2	Scrapers	361	0.48	8	20	8	
3	Excavators	162	0.38	8	20	8	Export volume = **_?_** cubic yards?
1	Graders	174	0.41	8	20	8	Import volume = **_46,000_** cubic yards
	Rubber Tired Dozers	255	0.4	8	20	8	
4	Tractors/Loaders/Backhoes	97	0.37	8	20	8	
	Other Equipment?						
	Trenching	**Start Date:**	**12/15/2017**	**Total phase:**	**60**		
		End Date:	**3/15/2018**				
4	Tractor/Loader/Backhoe	97	0.37	8	60	8	
3	Excavators	162	0.38	8	60	8	
	Other Equipment?						
	Building - Exterior	**Start Date:**	**12/15/2017**	**Total phase:**	**240**		**Cement Trucks? 6,500 Total Round-Trips**
		End Date:	**12/15/2018**				
3	Cranes	226	0.29	10	100	4.166667	Electric? (Y/N) ___ Otherwise assumed diesel
2	Forklifts	89	0.2	10	240	10	Liquid Propane (LPG)? (Y/N) ___ Otherwise Assumed diesel
	Generator Sets	84	0.74			0	Or temporary line power? (Y/N) _Y_
1	Tractors/Loaders/Backhoes	97	0.37	8	180	6	otherwise, assume diesel generator
4	Welders	46	0.45	10	120	5	
	Other Equipment?					0	
	Building - Interior/Architectural Coating	**Start Date:**	**5/15/2018**	**Total phase:**	**140**		
		End Date:	**12/15/2018**				
	Air Compressors	78	0.48			0	
	Aerial Lift	62	0.31			0	
	Other Equipment?						
	Paving	**Start Date:**	**7/11/2018**	**Total phase:**	**10**		
		Start Date:	**7/25/2018**				
	Cement and Mortar Mixers	9	0.56			0	
1	Pavers	125	0.42	8	10	8	**Asphalt? 2,400 cubic yards or ____ round trips?**
1	Paving Equipment	130	0.36	8	10	8	
2	Rollers	80	0.38	8	10	8	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	
	Other Equipment?						

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate
Modify horepower or load factor, as appropriate

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45