Planning and Inspection Department
Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050
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Appeal Form

Instructions

Use this form to appeal a decision of the Architectural Review Committee or Planning Commission. **All appeals must be filed in the Planning Division within seven calendar days of the action being appealed.**

Appeals from the Architectural Review Committee are made to the Planning Commission and will be set for hearing on the next available Planning Commission agenda. Appeals from the Planning Commission are made to the City Council and will be placed on the subsequent City Council Agenda to set a hearing date. Please contact the Planning Division at the number listed above with any inquiries about the process.

Please print, complete, and sign this form before mailing or delivering to the City, along with the fee payment, and supporting documentation, letters, etc. (if any).

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Appellant Declaration

Name: Adams Broadwell Joseph & Cardozo
Street Address: 601 Gateway Blvd., Ste. 1000
City, State, Zip Code: South San Francisco, CA 94080
Phone number: (650) 589-1660
E-mail address: agraf@adamsbroadwell.com

In accordance with the provisions of the Municipal Code of the City of Santa Clara, I hereby appeal the following action of the:

☑ Architectural Review Committee ☐ Planning Commission

at it's meeting of September 18, 2019.
(date)

Agenda Item No.: 8.A
File No.(s): PLN2019-13745; CEQ2019-01071
Address:/APN(s): 2175 Martin Avenue, Santa Clara, CA ; APN 224-10-115

Appellant Statement
(If more space is required, attach a separate sheet of paper.)

Action being appealed:

Please see attached letter.

Reason for Appeal:

Please see attached letter.

Certification of Authenticity

Beware, you are subject to prosecution if you unlawfully submit this form. Under penalty of law, transmission of this form to the City of Santa Clara is your certification that you are authorized to submit it and that the information presented is authentic.

Signature of Appellant

9/25/2019
Date

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September 25, 2019

By Hand Delivery

Planning Division
Planning and Inspection Department
City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Re: **Appeal of the Architectural Committee's Approval of the LS1 Data Center Project and Adoption of the Mitigated Negative Declaration (PLN2019-13745, CEQ2019-01071)**

Dear Planning Commission:

We write on behalf of Santa Clara Citizens for Sensible Industry ("SCCSI"), pursuant to the City of Santa Clara ("the City") Zoning Ordinance § 18.76.020(h), to request that the Planning Commission grant this appeal and reverse the September 18, 2019 decision of the City's Architectural Review Committee to approve the LS1 Data Center Project ("Project") located at 2175 Martin Avenue, Santa Clara, California 95050 and adopt the final Mitigated Negative Declaration[1] ("MND") for the proposed Project, prepared by the City's Community Development Department pursuant to the California Environmental Quality Act ("CEQA").[2]

I. ACTION BEING APPEALED

LVP Martin Avenue Associates LLC c/o Lightstone Group ("Applicant") proposes to demolish a single story building previously used for industrial warehousing, manufacturing, and office purposes and construct a three-story,

[1] City of Santa Clara, Mitigated Negative Declaration: LS1 Data Center Project (Sept. 2019) (*hereinafter* "Final MND").
[2] Pub. Resources Code § 21000 *et seq.*

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79,300 square foot ("sf") data center with a floor area ratio ("FAR") of 1.08.[3] On August 26, 2019, we submitted comments, with the assistance of our technical expert James Clark, Ph.D., on the draft Initial Study and MND for the proposed Project ("Comment Letter").[4] As detailed therein, the Project presents potentially significant, unmitigated impacts due the MND's failure to sufficiently describe the current environmental setting for biological resources.[5] In addition, we offered substantial evidence supporting a fair argument that the Project's impacts to air quality, biological resources, energy, and land use are potentially significant and unmitigated.[6] Finally, the City's analysis of the Project's cumulative energy impacts is inadequate as a matter of law and substantial evidence supports a fair argument that the Project's energy impacts are cumulatively considerable.[7] Based on the substantial evidence presented, the City must prepare an environmental impact report ("EIR") for the Project.

Furthermore, the Architectural Committee violated Zoning Ordinance § 18.76.020 by finding that the design and location of the proposed Project is such that it is in keeping with the character of the neighborhood and is such as not to be detrimental to the harmonious development contemplated by the Zoning Ordinance and the Santa Clara 2010-2035 General Plan ("General Plan") despite evidence to the contrary. Specifically, the Project is inconsistent with the General Plan because the Project's FAR exceeds the applicable maximum and no valid exception to this policy exits.[8] In addition, a condition of approval allowing an alternative replacement rate for protected trees with approval from the Director of Community Development Department conflicts with the General Plan.[9]

On September 16, 2019, we received a copy of the Community Development Department's staff report to the Architectural Committee,[10] and were notified of the

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[3] Final MND, exhibit A at p. 7 (*hereinafter* "Initial Study")
[4] Letter from Andrew J. Graf, Adams Broadwell Joseph & Cardozo to Nimisha Agrawal, Community Development Department, City of Santa Clara re: Comments on the LS1 Data Center Project Proposed Mitigated Negative Declaration (MND) (PLN2019-13745 and CEQ2019-01071) (Aug. 26, 2019) (*hereinafter* "Comment Letter").
[5] *Id.* at pp. 4-7.
[6] *Id.* at pp. 7-14, 21-22.
[7] *Id.* at pp. 14-20.
[8] *Id.* at pp. 20-23
[9] *Id.* at pp. 11-12, 23.
[10] City of Santa Clara, Architectural Committee Project Overview: Agenda Item #8.A (undated) (*hereinafter* "Staff Report").

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publication of the final MND, which included the City's responses to comments on the draft MND.[11] The Architectural Committee approved the Project and adopted the MND at a public hearing on September 18, 2019.[12] Minutes for the hearing were not available at the time of this submission.[13]

We respectfully request the Planning Commission grant our appeal and reverse the Architectural Committee's approval of the Project and adoption of the MND.

II. STATEMENT OF INTEREST

SCCSI is an unincorporated association of individuals and labor organizations who may be adversely affected by the potential health, safety, public service, and environmental impacts of the Project. The association includes City of Santa Clara resident Mr. Long Vu, California Unions for Reliable Energy and its organization members and the members' families, and other individuals who live, work, recreate and raise their families in the City. They would be directly affected by the Project's environmental and health and safety impacts.

Individual members may also work on the Project itself. They would be the first in line to be exposed to any health and safety hazards which may be present on the Project site. They each have a personal interest in protecting the Project area from unnecessary, adverse environmental and public health impacts.

SCCSI supports the development of data centers where properly analyzed and carefully planned to minimize impacts on the environment. Any proposed project should avoid impacts to public health, energy resources, sensitive species and habitats, and should take all feasible steps to ensure significant impacts are mitigated to the maximum extent feasible. Only by maintaining the highest standards can development truly be sustainable.

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[11] Email from Nimisha Agrawal, Community Development Department, City of Santa Clara to Janet Laurain, Adams Broadwell Joseph & Cardozo re: LS1 Data Center September 18th Hearing (Sept. 16, 2019).
[12] Email from Nimisha Agrawal, Community Development Department, City of Santa Clara to Janet Laurain, Adams Broadwell Joseph & Cardozo re: LS1 Data Center Appeal Deadline and Architectural Committee Decision on the Project (Sept. 24, 2019).
[13] *Ibid.*

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SCCSI and its members are concerned with projects that can result in serious environmental harm without providing countervailing economic benefits such as decent wages and benefits. Environmentally determinantal projects can jeopardize future jobs by making it more difficult and more expensive for industry to expand in the City and the surrounding region, and by making it less desirable for businesses to locate and people to live and recreate in the City, including in the vicinity of the Project. Continued degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduces future employment opportunities.

The labor organization members of SCCSI therefore have a direct interest in enforcing environmental laws that minimize the adverse impacts of projects that would otherwise degrade the environment. CEQA provides a balancing process whereby economic benefits are weighted against significant impacts to the environment.[14] It is for these purposes that we offer these comments.

III. REASONS FOR APPEAL

The City's responses to the comments on the draft MND do not adequately address the issues raised by SCCSI and other members of the public. As outlined in our Comment Letter and below, substantial evidence supports a fair argument the Project may have significant environmental impacts. Therefore, the Architectural Committee's decision to adopt the final MND must be reversed, and an EIR must be prepared.

Moreover, the Architectural Committee cannot make the necessary findings and determinations required under Zoning Ordinance § 18.76.020 because the proposed Project conflicts with the harmonious development contemplated by the General Plan. Therefore, the Architectural Committee's decision to approve the Project must be reversed.

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[14] Pub. Resources Code § 21871(a)(3); *Citizens for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151, 171.

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A. The Planning Commission Must Reverse the Architectural Committee's Decision to Adopt the MND Because Substantial Evidence Supports a Fair Argument the Project May Have Significant, Unmitigated Environmental Impacts

CEQA contains a strong presumption in favor of requiring a lead agency to prepare an EIR. This presumption is reflected in the "fair argument" standard. Under this standard, a lead agency must prepare an EIR whenever substantial evidence in the whole record before the agency supports a fair argument that a project may have a significant effect on the environment.[15]

A mitigated negative declaration may only be prepared if the Project includes legally binding measures which, based on substantial evidence, avoid or mitigate potentially significant environmental impacts.[16] "Substantial evidence" required to support a fair argument is "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached."[17] "[I]n marginal cases where it is not clear whether there is substantial evidence that a project may have a significant effect on the environment, the lead agency shall be guided by the following principle: If there is disagreement among expert opinion supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR."[18]

As shown in our Comment Letter, substantial evidence supports a fair augment the Project may cause a significant environmental effect.[19] As described below, the City's responses to comments fail to rebut this presumption.[20] Therefore, the Planning Commission must reverse the Architectural Committee's decision to

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[15] *Id.* §§ 21080(d), 21082.2(d); CEQA Guidelines §§ 15002(k)(3), 15064(f)(1), (h)(1); *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1993) 6 Cal.4th 1112, 1123; *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 82; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-151; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1601-1602.
[16] Pub. Resources Code § 21064.5.
[17] CEQA Guidelines § 15384(a).
[18] *Id.* § 15064(f).
[19] *See generally* Comment Letter at pp. 4-22.
[20] Final MND, exhibit B (*hereinafter* "City's Responses to Comments")

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adopt the MND and direct the Community Development Department to prepare an EIR for the Project.

1. The City Fails to Adequately Describe the Environmental Setting for Biological Resources

The City did not make any changes to the Initial Study's discussion of biological resources. In response to our Comment Letter,[21] the City contends the MND correctly concludes the Project would not result in any impacts on any special-status species because no natural or sensitive habitats are present due to the developed nature of the project site and surrounding area.[22] The City relies on the observations made by Torrey Edell during a site visit.[23]

The City cannot conclude "no natural or sensitive habitats are present on the project site" simply because of the developed nature of the site and surrounding area. Such a conclusion inherently conflicts with the City's finding that the Project's construction could impact suitable nesting habitat for numerous bird species.[24] It also conflicts with the City's own admission that 22 special-status species have been documented within the U.S. Geological Survey 7.5-minute quadrangle for the Project site according to the California Natural Diversity Database ("CNDBB").[25] The City claims "nearly all of the [CNDBB] occurrences are unreliable because they are outdated and have poor accuracy." Even if true, this assertion acknowledges some of the occurrences are reliable and special-status species have the potential to occur on the Project site, such as special-status nesting birds.[26]

Moreover, the City cannot rely on the observations of Ms. Edell. The record does not contain any evidence regarding Ms. Edell's qualifications. Nor does the record contain any evidence regarding Ms. Edell's "general observations about

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[21] Comment Letter at pp. 5-6.
[22] City's Responses to Comments at p. 4.
[23] *Ibid.*
[24] Initial Study at pp. 56-57.
[25] City's Responses to Comments at p. 4.
[26] *Ibid.*

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overall site conditions."[27] To the contrary, the City states the only record available related to Ms. Edell's site visit is the tree inventory report.[28] This report only documents the trees located on the property, and contains no other information which could support any conclusions regarding special-status wildlife species.[29]

Because the City fails to properly investigate and disclose the potential for special-status species to occur on the Project, the MND fails to adequately mitigate potentially significant impacts to special-status wildlife. Therefore, substantial evidence supports a fair argument the Project may have significant, unmitigated impacts, which must be analyzed and mitigated in an EIR.

2. *Substantial Evidence Supports a Fair Argument the Project Could Result in Significant, Unmitigated Environmental Impacts*

a. <u>The Project 's DPM Emissions Are Potentially Significant and Unmitigated</u>

The City did not make any changes to its discussion regarding the potential impacts of diesel particulate matter ("DPM") emissions. In response to our Comment Letter,[30] the City claims we incorrectly assumed "PM2.5 D" to mean DPM based on information included in Air Quality Technical Report ("AQTR") Appendix 1-A and Appendix 1-B.[31] The City states that DPM emissions were based PM2.5 exhaust emissions outlined AQTR Appendix 2-A.[32] However, the City then fails to explain how the assumptions outlined in AQTR Appendix 2-A support its analysis. In fact, the City then relies on AQTR Appendix 1-A and Appendix 1-B to show its DPM emissions calculations is correct.[33] Given the inconsistency in the City's explanation, and the City's continued reliance on AQTR Appendix 1-A and Appendix 1-B to support its contention, substantial evidence, based on Dr. Clark's

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[27] City of Santa Clara, LS1 Data Center Administrative Record (July 31, 2019) ("This site visit was conducted as part of the Tree Inventory; there is not a separate record for it included in the administrative record.").
[28] City's Responses to Comments at p. 4.
[29] *See generally* Initial Study, appen. 4.4-1.
[30] Comment Letter at pp. 10, attachment A.
[31] City's Responses to Comments at p. 7.
[32] *Ibid.*
[33] *Ibid.*

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opinion,[34] continues to support a fair argument that the Project has potentially significant, unmitigated impacts. Therefore, an EIR must be prepared.

b. BIO-2.1 Fails to Adequately Mitigate the Potentially Significant Impacts to Protected Trees to Less than Significant

The City did not make any changes to mitigation measure BIO-2.1. In response to our Comment Letter,[35] the City concludes the mitigation measure is consistent with the General Plan and would not result in an environmental impact.[36] Although General Plan Policy 5.3.1-P10 requires a tree replacement plan at a 2:1 ratio,[37] the City a mitigation measure allowing a lower replacement rate for the Project.[38] The City does not rely on a General Plan policy for this assertion, but instead concludes it is permitted to have a lower replacement rate due to "past practice and to have an onsite benefit rather than an off-site benefit."[39]

An unwritten rule, which is inconsistent with the General Plan, cannot reduce the Project's potentially significant impacts. If the City desires to change the General Plan policy, then it must propose an amendment to the General Plan and conduct environmental review. Under Policy 5.3.1-P10, the Project must add at least 24 new trees because it proposes to remove 12 trees. However, the Project will result in a replacement rate lower than 2:1 because it only requires 15 new trees.[40]

As the City acknowledges, this policy is meant to increase the urban forest and minimize the heat island effect.[41] The United States Environmental Protection Agency describes the heat island effect as follows:

> As urban areas develop, changes occur in their landscape. Buildings, roads, and other infrastructure replace open land and vegetation. Surfaces that were once permeable and moist become impermeable and dry. These changes

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[34] Comment Letter at pp. 10, attachment A.
[35] *Id.* at pp. 11-12.
[36] City's Responses to Comments at p. 8.
[37] General Plan at p. 5-28.
[38] City's Responses to Comments at p. 8.
[39] *Ibid.*
[40] *Ibid.*
[41] *Ibid.*

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> cause urban regions to become warmer than their rural surroundings, forming an "island" of higher temperatures in their landscapes.[42]

The heat island effect can cause (1) increased energy consumption, (2) elevated emissions of air pollutants and greenhouse gases, (3) compromised human health and comfort, and (4) impaired water quality.[43]

The General Plan addresses the heat island effect by requiring a tree replacement rate of 2:1.[44] Since mitigation measure BIO-2.1 permits a replacement rate lower than what is allowed under Policy 5.3.1-P10, the Project presents potentially significant, unmitigated impacts to energy, air quality, public and worker health, and water quality. Therefore, an EIR must be prepared.

c. <u>The Project May Have Significant, Unmitigated Impacts on Energy Resources</u>

The City provides a supplemental analysis of the Project's power use efficiency ("PUE").[45] However, this supplemental analysis fails to address the contentions raised in our Comment Letter and raises more questions than answers. As discussed in the Comment Letter,[46] PUE is not an effective measure for demonstrating efficient energy consumption.[47] "[T]here are concerns that the metric does not consider the actual productivity or efficiency of the equipment. As a result, a data center in which no infrastructure upgrades are made actually achieves an improved PUE as the IT equipment ages and uses more power."[48]

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[42] United States Environmental Protection Agency, Heat Islands: Learn About Heat Islands, https://www.epa.gov/heat-islands/learn-about-heat-islands (last accessed Sept. 24, 2019).
[43] United States Environmental Protection Agency, Heat Islands: Heat Island Impacts, https://www.epa.gov/heat-islands/heat-island-impacts (last accessed Sept. 24, 2019).
[44] General Plan at p. 5-28.
[45] City's Responses to Comments at pp. 9-10.
[46] Comment Letter at pp. 12-14.
[47] The Green Grid, White Paper #63: Data Center Environmental Impacts – Main Impacts and Proposal for the Data Center Maturity Model (2014) p. 9.
[48] Beth Whitehead, et al., *Assessing the Environmental Impact of Data Centers Part 1: Background, Energy Use, and Metrics*, Building and Environment 82 (2014) p. 157; *see also* Nathaniel Horner, et al., *Power Usage Effectiveness in Data Centers: Overloaded and Underachieving*, The Electricity Journal 29 (2016) p. 63 ("A low-overhead facility running older, less efficient servers could conceivably achieve a low PUE while still using more energy than it needs.").

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The City presents additional evidence of a worst case "mechanical PUE" of 1.19.[49] Notably, the City still does not identify all the equipment which will use electricity during operation. The only equipment identified is the "20 (N+2) DA250 and MCV440 systems,"[50] which are the thermal management systems. This equipment was not disclosed in the draft MND or the assumptions used by the mechanical equipment manufacturer.

Appendix F of the CEQA Guidelines identifies several items which should be disclosed when evaluating the energy consumption for a project, including disclosure of the "energy consuming equipment and processes which will be used during construction, operation and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment for the project."[51] The City does not include a description of all energy consuming equipment and processes. The assumptions and methods for how the City determines the Project's energy use is critical to evaluating whether the Project's operation may have a significant impact on energy. Without this information, decisionmakers and the public cannot properly evaluate the Project's potential impacts on energy use.

Instead, the City relies on the an undisclosed analysis prepared by the mechanical equipment manufacturer and reviewed by the Project engineer[52] The City fails to reconcile why the annual "mechanical PUE" of 1.19 discussed in its response to comments is substantially lower than the annual PUE of 1.37 described in the draft MND.[53] If anything, the City's response shows PUE is not a reliable method of assessing the energy consumption of data centers given the significant discrepancies between the draft MND and the City's responses to comments.

d. <u>The Project's FAR Conflicts with the General Plan Resulting in Potentially Significant, Unmitigated Environmental Impact</u>

The City did not make any changes to its discussion and conclusions regarding the Project's FAR. In response to our Comment Letter,[54] the City

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[49] City's Reponses to Comments at pp. 9-10.
[50] *Id.* at p. 9.
[51] CEQA Guidelines, appen. F.
[52] City's Responses to Comments at pp. 9-10.
[53] *Ibid.*
[54] Comment Letter at pp. 20-22.

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concludes the General Plan Discretionary Use Policy 5.5.1-P9 applies to the Project, which gives the City discretion to allow an increased FAR for qualifying projects.[55] The City explains the "FAR restrictions are intended to serve as a mechanism for regulating employment density, which can be correlated with environmental impacts."[56] This City is incorrect in both its conclusion and explanation.

First, the City erroneously applies Policy 5.5.1-P9. The policy states:

> For Data Centers ***on Light or Heavy Industrial*** designated properties, allow a 20 percent increase in the maximum allowed non-residential square-footage, provided that sufficient onsite land area is available to meet the parking requirements for other uses allowed under those designations, and provided that the increased intensity is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.[57]

The City incorrectly attempts to substitute the land use designations for the Zoning Ordinance (ML and MH) with the land use designations for the General Plan (Light Industrial and Heavy Industrial).[58] The General Plan contains four separate land use designations for office/industrial development: Low-Intensity Office/R&D, High-Intensity Office/R&D, Light Industrial, and Heavy Industrial.[59] Each of these designations contains a maximum FAR.[60]

Policy 5.3.5-P12 does not apply to areas *designated by the General Plan* as Low-Intensity Office/R&D. Instead, the policy only applies to projects located in areas *designated by the General Plan* as Light Industrial or Heavy Industrial areas. Consistent with Policy 5.3.5-P12, the discretionary FAR increase for Light Industrial or Heavy Industrial areas is intended to promote development of data centers "in Light and Heavy industrial areas to compliment employment areas and

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[55] City's Responses to Comments at p. 13.
[56] *Ibid.*
[57] General Plan at p. 5-49 (emphasis added).
[58] City's Responses to Comments at p. 13 ("Santa Clara General Plan Discretionary Use Policy 5.5.1-P9 allows a 20 percent FAR increase for data centers on designated ML or MH properties, provided that sufficient on-site land area is available to meet the parking requirements of other uses allowed under those designations and the increased intensity is compatible with planned uses on neighboring properties and consistent with other general plan policies.")
[59] General Plan at pp. 5-14 to 5-15.
[60] *Ibid.*

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retail uses."[61] Because the discretionary FAR increase does not apply to development on land designated by the General Plan as Low-Intensity Office/R&D, and the Project exceeds the applicable maximum FAR for that land use designation, the Project is inconsistent with the General Plan.

Second, FAR restrictions do not regulate employment density; rather, FAR measures land use intensity.[62] "The standards for land use classifications establish range for density and intensity, but do not guarantee development at the maximum density or intensity specified for each classification."[63] These policies address neighborhood compatibility.[64] Since the Project's FAR exceeds the applicable maximum for Low-Intensity Office/R&D, an no applicable exception applies, the Project is incompatible with the surrounding area. Therefore, the Project has potentially significant, unmitigated impacts to land use, and an EIR must be prepared.

3. Substantial Evidence Supports a Fair Argument the Project's Energy Impacts Are Cumulatively Considerable

The City contends its cumulative impacts analysis is not list based because it considers a broader cumulative setting.[65] However, this statement directly contradicts the language included in the Initial Study, which states: "The cumulative projects identified in Table 4.21-1 as well as other future development would result in a change in the demand for energy. Some of these projects could consider to the demand for energy or result in the large amounts of fuel, water, or energy, or use these in a wasteful manner, which would be considered a significant cumulative impact."[66] Table 4.21-1 did not contain all development projects now included in the Final MND.[67] The City failed to recirculate the final MND for public review and comment.

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[61] *Id.* at p. 5-27 ("5.3.5-P12 Promote development, such as manufacturing, auto services and data centers, in Light and Heavy Industrial classifications to compliment employment areas and retail uses.").
[62] General Plan at p. 5-12.
[63] *Ibid.*
[64] *Ibid.*
[65] City's Responses to Comments at p. 11.
[66] Initial Study at p. 174.
[67] See City's Responses to Comments at pp. 11-13.

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Moreover, the City's analysis improperly compares the incremental effects of the proposed Project with the collective impacts of all other relevant projects. When undertaking a cumulative impact analysis, an agency cannot simply compare the incremental effects of a proposed project *against* the collective impacts of all other relevant projects yielding the proposed project's relative impact vis-à-vis the impacts of other projects.[68] Rather, the lead agency must *add* the project's incremental impact to the anticipated impacts of other projects.[69] Because the City revised Table 4.21-1, but then failed to conduct the proper analysis as required under CEQA, the Project has potentially significant, unmitigated cumulative impacts on energy. Therefore, an EIR must be prepared.

B. The Planning Commission Must Reverse the Architectural Committee's Decision to Approve the Project Because the Project Conflicts with the General Plan and Zoning Ordinance

Zoning Ordinance § 18.76 establishes the architectural review process for proposed development projects in the City. The purpose of architectural review is to (1) encourage orderly and harmonious appearance of structures and property, (2) maintain the public health, safety and welfare, (3) maintain the property and improvement values throughout the City, and (4) encourage the physical development of the City as intended by the General Plan.[70] In order to grant approval, the Architectural Committee must make certain findings and determinations on a proposed project.[71] If the Committee is unable to make the findings and determinations prerequisite to the granting of architectural approval, the application must be denied.[72]

The Committee must find that the design and location of the proposed development is such that it is in keeping with the character of the neighborhood and is such not to be determinantal to the harmonious development contemplated by the Zoning Ordinance and the General Plan.[73] However, the Architectural Committee had no evidence to make this finding. As detailed in our Comment Letter and

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[68] *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal. App. 4th 98, 117-20.
[69] *Ibid.*
[70] Zoning Ordinance § 18.76.010.
[71] *Id.* § 18.76.020(c).
[72] *Id.* § 18.76.020(e).
[73] *Id.* § 18.76.020(c)(3).

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discussed herein, the Project conflicts with the General Plan because the Architectural Committee erroneously applied Discretionary Use Policy 5.5.1-P9 and a condition of approval conflicts with Policy 5.3.1-P10.[74] Due to these inconsistencies, the Project differs from the character of the neighborhood and is detrimental to the harmonious development of the City as contemplated by the General Plan. Therefore, the Architectural Committee's approval of the Project must be overturned for violating Zoning Ordinance § 18.76.020.

1. *The Architectural Committee Erroneously Applied Discretionary Use Policy 5.3.5-P12*

The Architectural Committee concludes the Project is in keeping with the character of the neighborhood and is not detrimental to the harmonious development contemplated by the Zoning Ordinance or General Plan because the "proposed development is 2-3 stories higher than the surrounding low to mid-rise structures, but is consistent to the adjacent industrial uses."[75] The Architectural Committee also found that the "project would include ancillary equipment (backup generators and above ground fuel storage tanks), loading dock, circulation and parking, and landscape improvements in conformance with the ML zoning district development standards and consistent with the development of data centers throughout the City."[76] However, these findings are erroneous because the Architectural Committee misinterpreted the discretionary use policy permitting a 20 percent increase for a Project's FAR.

The Architectural Committee confirmed that the project site is currently designated Low Intensity Office/R&D in the General Plan and is zoned light industrial (ML).[77] In addition, the Architectural Committee confirmed the FAR of 1.08 for the Project exceeds the base FAR of 1.0 set by the General Plan.[78] But the Architectural Committee concluded that the Project's FAR is within the 20 percent increase allowance for data centers pursuant to Discretionary Use Policy 5.5.1-P9.[79] The Architectural Committee relied on the City's interpretation of the Policy as

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[74] Comment Letter at pp. 11-12, 20-24.
[75] Staff Report at p. 4.
[76] *Ibid.*
[77] *Id.* at p. 2.
[78] *Ibid.*
[79] *Ibid.*

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allowing a 20 percent increase for data centers on "designated ML or MH properties."[80] This, however, is a misreading of the policy.

Policy 5.5.1-P9 states:

> For ***Data Centers on Light or Heavy Industrial designated properties***, allow a 20 percent increase in the maximum allowed non-residential square-footage, provided that sufficient onsite land area is available to meet the parking requirements for other uses allowed under those designations, and provided that the increased intensity is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.[81]

The Architectural Committee incorrectly attempted to substitute the land use designations for the Zoning Ordinance (ML and MH) with the land use designations for the General Plan (Light Industrial and Heavy Industrial) with the.[82] Policy 5.5.1-P9 does not apply to areas designated as Low-Intensity Office/R&D. Instead, the policy only applies to projects located in areas *designated by the General Plan* as light industrial or heavy industrial areas.

Because the discretionary FAR increase does not apply to development on land designated by the General Plan as Low-Intensity Office/R&D, and the Project exceeds the applicable maximum FAR for that land use designation, the Project is inconsistent with the General Plan. Therefore, the Architectural Committee cannot find that the design and location of the Project is such that it is keeping with the character of the neighborhood and is not be detrimental to the harmonious development contemplated by the Zoning Ordinance and the General Plan.

2. Condition of Approval C6 Conflicts with General Plan Policy 5.3.1-P10

The Architectural Committee included a condition of approval that conflicts with the General Plan. Specifically, condition of approval C6 conflicts with Policy 5.3.1-P10 because it permits a replacement rate lower than what is required under the General Plan. Condition C6 states:

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[80] City's Responses to Comments at p. 13.
[81] General Plan at p. 5-49 (emphasis added).
[82] City's Responses to Comments at p. 13.

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> Project site landscaping shall be maintained in good condition throughout the life of the Project and no trees shall be removed without City review and approval. Trees permitted by the City for removal shall be replaced at a 2:1 radio with 24-inch box specimen tree, or equal alternative as approved by the Director of Community Development.[83]

The clause permitting an "equal alternative as approved by the Director of Community Development"[84] conflicts with the Policy 5.3.1-P10, which requires "new development to provide street trees and a minimum 2:1 on- or off-site replacement rate for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect." [85] The Project proposes to remove 12 protected trees from the Project site, but only anticipates adding 15 new trees. This conflicts with the 2:1 ratio required by Policy 5.3.1-P10, which would mandate the inclusion of at least 24 trees.

The General plan does not contain any exceptions to the 2:1 tree replacement ratio for protected trees. In fact, the City does not cite to any written authority supporting their contention that the Director of the Community Development Department has the discretion to approve a lower replacement rate. Instead, the City relies on an unwritten policy of "past practice."[86]

The City cannot rely on an unwritten rule, which facially conflicts with the General Plan. If the City desires to change the General Plan policies, then the City must propose an amendment to the General Plan and conduct environmental review pursuant to CEQA, just as it did when the City adopted Policy 5.3.1.-P10. Because the condition of approval conflicts with the General Plan, the Architectural Committee cannot find that the design and location of the Project is such that it is keeping with the character of the neighborhood and is not detrimental to the harmonious development contemplated by the Zoning Ordinance and the General Plan.

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[83] Staff Report, attach. 1 at p. 2.
[84] *Ibid.*
[85] General Plan at p. 5-28.
[86] Initial Study at p. 57.

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IV. REQUESTED RELIEF

We request that the Planning Commission grant this appeal and reverse the Architectural Committee's decision to adopt the MND and approve the Project. In addition, we request the City conduct further analysis of the Project's potentially significant environmental impacts in an environmental impact report. By doing so, the City and public can be sure all adverse environmental and public health impacts of the Project are adequately analyzed, disclosed, and mitigated.

Sincerely,

Andrew J. Graf/acp.

Andrew J. Graf
Associate

Attachment
AJG:acp

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ATTACHMENT A

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August 26, 2019

Via Email and Overnight Delivery

Nimisha Agrawal, Assistant Planner I
Community Development Department
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Re: Comments on the LS1 Data Center Project Proposed Mitigated Negative Declaration (MND) (PLN2019-13745 and CEQ2019-01071)

Dear Ms. Agrawal:

We write on behalf of Santa Clara Citizens for Sensible Industry ("SCCSI") to provide comments on the proposed Mitigated Negative Declaration ("MND")[1] and Initial Study ("IS")[2] prepared by the City of Santa Clara ("the City"), pursuant to the California Environmental Quality Act ("CEQA"),[3] for the LS1 Data Center Project (PLN2019-13745 and CEQ2019-01071) ("Project"). LVP Martin Avenue Associates LLC c/o Lightstone Group ("Applicant") proposes to demolish a single-story building previously used for industrial warehousing, manufacturing, and office purposes and construct a three-story, 79,300 square foot ("sf") data center.[4] The Project site is 1.68 acres (73,386 sf) and is located at 2175 Martin Avenue in the City of Santa Clara, California.[5]

The Project would include approximately 47,800 sf of data hall space and approximately 31,500 sf of support space, consisting of office space, a loading dock,

[1] City of Santa Clara, LS1 Data Center Project: Proposed Mitigated Negative Declaration (MND) (Aug. 2019) (*hereinafter* "MND").
[2] City of Santa Clara, Initial Study: LS1 Data Center Project (Aug. 2019) (*hereinafter* "IS").
[3] Pub. Resources Code ("PRC") § 21000 *et seq.*
[4] MND at p. i.
[5] IS at p. 7.

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storage, space, mechanical/electric/fiber rooms, and other ancillary uses.[6] Each data hall would include a 4.25 MW data room with projected peak capacity of 13.5 megavolt amperes ("MVA").[7]

An approximately 7,700 sf exterior equipment yard would house six 2.75 MW emergency generators to provide backup power to the data center in the event of an equipment failure or interruption in electrical service.[8] The Project would also include uninterruptible power supplies and lithium ion batteries to cover the total projected electrical demand in the event of equipment failure.[9] The proposed floor area ratio ("FAR") for the Project is 1.08.[10]

Project construction would occur in one phase consisting of three main categories of construction activities.[11] Activity Category 1 (demolition) would include demolition of the existing building and grading.[12] Activity Category 2 (core and shell) would include buildout of the core and shell structure and installation of pavement, landscaping, and utility connections.[13] Activity Category 3 (interiors) would include buildout of the interior data halls and tenant spaces.[14]

Based on our review of the MND, IS, and supporting documents, we conclude these documents fail to comply with CEQA. Specifically, the IS does not sufficiently describe the current environmental setting for biological resources and energy use. These deficiencies are fatal errors because all potentially significant environmental impacts which may result from the Project are not adequately analyzed and all feasible mitigation measures to reduce those impacts to a level of insignificance have not been proposed or adopted.

As described in these comments, there is more than a fair argument that the Project could result in potentially significant impacts to air quality, biological resources, energy, and land use. The City cannot undertake any further actions

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[6] *Ibid.*
[7] *Ibid.*; *see also* appen 3.0-1.
[8] *Id.* at p. 8.
[9] *Ibid.*
[10] *Id.* at p. 7 (the MND and IS assume the Project's FAR is 1.09 for conservative purposes).
[11] MND at p. ii.
[12] *Ibid.*
[13] *Ibid.*
[14] *Ibid.*

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concerning the proposed Project until it prepares an Environmental Impact Report ("EIR") that adequately analyzes the Project's potentially significant direct, indirect, and cumulative impacts, and incorporates all feasible mitigation measures to minimize these impacts to less than significant.

We reviewed the MND, the IS and its technical appendices, and the available reference documents with the assistance of our expert consultant, James Clark, Ph.D., whose comments and qualifications are included as Attachment A.[15] The City must respond to Dr. Clark's comments separately and fully.

I. STATEMENT OF INTEREST

SCCSI is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential health, safety, public service, and environmental impacts of the Project. The association includes City of Santa Clara resident Mr. Long Vu, California Unions for Reliable Energy ("CURE") and its organization members and the members' families, and other individuals who live, work, recreate and raise their families in the City. They would be directly affected by the Project's environmental and health and safety impacts. Individual members may also work on the Project itself. They would be the first in line to be exposed to any health and safety hazards which may be present on the Project site. They each have a personal interest in protecting the Project area from unnecessary, adverse environmental and public health impacts.

SCCSI supports the development of data centers where properly analyzed and carefully planned to minimize impacts on the environment. Any proposed project should avoid impacts to public health, energy resources, sensitive species and habitats, and should take all feasible steps to ensure significant impacts are mitigated to the maximum extent feasible. Only by maintaining the highest standards can development truly be sustainable.

SCCSI and its members are concerned with projects that can result in serious environmental harm without providing countervailing economic benefits such as decent wages and benefits. Environmentally determinantal projects can jeopardize

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[15] Letter from James J.J. Clark, Ph.D., Clark & Associates to Andrew J. Graf, Adams Broadwell Joseph & Cardozo re: Comment Letter on LS1 Data Center Project Mitigated Negative Declaration (MND) Application PLN2019-13745 (Aug 22., 2019) (*hereinafter* Clark Comments).

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future jobs by making it more difficult and more expensive for industry to expand in the City and the surrounding region, and by making it less desirable for businesses to locate and people to live and recreate in the City, including in the vicinity of the Project. Continued degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduces future employment opportunities. The labor organization members of SCCSI therefore have a direct interest in enforcing environmental laws that minimize the adverse impacts of projects that would otherwise degrade the environment. CEQA provides a balancing process whereby economic benefits are weighted against significant impacts to the environment.[16] It is for these purposes that we offer these comments.

II. THE IS FAILS TO ADEQUATELY DESCRIBE THE ENVIRONMENTAL SETTING

An initial study must include a description of the project's environmental setting.[17] The description of the environmental setting constitutes the baseline physical conditions by which a lead agency may assess the significance of a project's impacts.[18] "The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts."[19]

"An initial study may rely upon expert opinion supported by facts, technical studies or other substantial evidence to document its findings."[20] Substantial evidence is defined as "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached."[21] It includes "facts, reasonable assumption predicated upon facts, and expert opinion supported by facts,"[22] but does not include "[a]rgument, speculation, unsubstantiated opinion or narrative, [or] evidence which is clearly erroneous or inaccurate."[23]

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[16] PRC § 21871(a)(3); *Citizens for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151, 171.
[17] CEQA Guidelines § 15063(d)(2).
[18] *Id.* § 15125(a); *see also Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 38 Cal. 4th 310, 320-21 (CEQA Guidelines § 15125(a) applies to an initial study).
[19] CEQA Guidelines § 15125(a).
[20] *Id.* § 15063(a)(3).
[21] *Id.* § 15384(a).
[22] *Id.* § 15384(b).
[23] *Id.* § 15384(a).

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A. The IS Fails to Adequately Describe the Potential for Special-Status Species to Occur in the Project Vicinity

The IS concludes "there are no wetlands or other sensitive habitats on or adjacent to the project site" based on a single site visit conducted exclusively for the purpose of completing a tree inventory.[24] Other than the Tree Inventory Report included as an Appendix 4.4-1,[25] "there is not a separate record for [the site visit] included in the administrative record."[26] Not a single mention of the presence or absence of special-status species is made in the Tree Inventory Report. The IS cannot rely on unsubstantiated expert opinion to conclude that no wetlands or other sensitive habitats occur on or adjacent to the project site.

To the contrary, the IS recognizes special-status species have the potential to occur on the Project site despite the highly urbanized nature of the area because "the site may provide nesting habitat and food sources for native migratory birds and raptors."[27] Moreover, 38 special-status species are listed in the California Natural Diversity Database for the quadrangle in which the Project is located including, but not limited to, the California Tiger Salamander, Swainson's hawk, burrowing owl, coast horned lizard, northern California legless lizard and hairless popcorn flower.[28] The Project site contains numerous mature trees and is located less than 1,600 feet the San Thomas Aquino Creek riparian corridor, which supports a variety of aquatic and wetland-oriented species.

"[P]reparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, *an agency must use its best efforts to find out and disclose all that it reasonably can.*"[29] "If, *after thorough investigation*, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate

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[24] IS at p. 54, fn. 29.
[25] *Id.*, appen. 4.4.-1.
[26] City of Santa Clara, LS1 Data Center Administrative Record (July 31, 2019) ("This site visit was conducted as part of the Tree Inventory; there is not a separate record for it included in the administrative record.").
[27] IS at p. 54.
[28] Cal. Department of Fish and Game, CNDBB Quad Species List (last accessed Aug. 19, 2019).
[29] CEQA Guidelines § 15144 (emphasis added).

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discussion of the impact."[30] An agency may not hide behind its own failure to gather relevant data.[31]

The City failed to gather relevant data concerning the potential of special-status species to occur within the vicinity of the Project. As a result, the environmental impacts of the Project on special-status species are potentially significant and the adequacy of the proposed mitigation measures cannot be properly assessed. The City must prepare an EIR analyzing the impacts of the Project on special-status species and implement all feasible mitigation measures to reduce those impacts.

B. The IS Fails to Describe the Energy Consumption of Data Centers in the City

Data centers are high energy consumers.[32] "The high density of equipment in data centers makes them extremely energy intensive, often requiring 10 to 100 times more electricity per floor space than other building types."[33] "In 2014, U.S. data centers consumed an estimated 70 billion kWh, representing about 1.8% of total U.S. electricity consumption."[34] The electricity consumed by data centers in the City is even more extreme than the national use.

Silicon Valley Power ("SVP") provides electricity to data centers in the City, which would include the proposed Project. [35] Although 84% of the total number of customers in SVP's service area are residential, 90% of utility retail sales were to commercial and industrial customers.[36] As of December 2017, over 46% of SVP's commercial and industrial sales are attributable to data centers.[37] This number will only continue to increase because the City is a prime location for data centers due to power pricing from SVP, whose electricity rates average 25 to 40 percent

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[30] *Id.* § 15145 (emphasis added).
[31] *City of Redlands v. County of San Bernardino (*2002) 96 Cal.App.4th 398, 408.
[32] Beth Whitehead, et al., *Assessing the Environmental Impact of Data Centers Part 1: Background, Energy Use, and Metrics*, Building and Environment 82 (2014) 151-159.
[33] Arman Shehabi, et al., *Data Center Growth in the United States: Decoupling the Demand for Services from Electricity Use*, Environ. Res. Lett. 13 (2018) p. ES-1, *available at* https://iopscience.iop.org/article/10.1088/1748-9326/aaec9c/pdf.
[34] *Id.*
[35] MND at p. i; IS at p. 8, appen. 3.0-1.
[36] Silicon Valley Power, 2018 Integrated Resource Plan (Dec. 2018) p. 3-1 (*hereinafter* 2018 IRP).
[37] *Ibid.*

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lower than the cost of power from Pacific Gas & Electric Company in the surrounding municipalities.[38] In fact, data centers are one of the primary drivers for SVP's need to increase its maximum energy capacity.[39]

The IS fails to include any discussion regarding the presence of data centers in the City and their substantial electricity consumption. As a result, the potentially significant Project and cumulative impacts on energy cannot be properly evaluated. The City must prepare an EIR assessing the Project's significant energy impacts and identify all feasible mitigation measures to reduce those impacts to a level of insignificance.

III. THE CITY MUST PREPARE AN ENVIRONMENTAL IMPACT REPORT

CEQA requires that lead agencies analyze any project with potentially significant environmental impacts in an EIR.[40] "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR protects not only the environment, but also informed self-government."[41] The EIR 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."[42]

CEQA's purpose and goals must be met through the preparation of an EIR, except in certain limited circumstances.[43] CEQA contains a strong presumption in favor of requiring a lead agency to prepare an EIR. This presumption is reflected in

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[38] Rich Miller, *Why Santa Clara is the Focus for Silicon Valley Data Center Activity*, Data Center Frontier (Apr. 11, 2018), *available at* https://datacenterfrontier.com/silicon-valley-data-centers-power-pricing/; *see also* Michael Rareshide, *The Silicon Valley Data Center Remains Strong But Faces Challenges for Future Expansion to Meet Demand* (Mar. 26, 2019), *available at* https://info.siteselectiongroup.com/blog/the-silicon-valley-data-center-market-remains-strong-but-faces-challenges-for-future-expansion-to-meet-demand.
[39] 2018 IRP at p. 4-4 ("The near-term accelerated growth observed in the load forecast is due to the growth from data centers which are already in the City's planning development processes."), p. 4-6 ("The high density of data centers in SVP's territory and the planned addition of new data centers drive the higher energy demand and load factor for the utility.").
[40] *See* PRC § 21000; CEQA Guidelines § 15002.
[41] *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564 (internal citations omitted).
[42] *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[43] *See* PRC § 21100.

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the "fair argument" standard. Under that standard, a lead agency "shall" prepare an EIR whenever substantial evidence in the whole record before the agency supports a fair argument that a project may have a significant effect on the environment.[44]

In contrast, a mitigated negative declaration may be prepared only when, after preparing an initial study, a lead agency determines that a project may have a significant effect on the environment, but:

(1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.[45]

Courts have held that if "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."[46] The fair argument standard creates a "low threshold" favoring environmental review through an EIR, rather than through issuance of a negative declaration.[47] An agency's decision not to require an EIR can be upheld only when there is no credible evidence to the contrary.[48]

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[44] *Id.* §§ 21080(d), 21082.2(d); CEQA Guidelines §§ 15002(k)(3), 15064(f)(1), (h)(1); *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1993) 6 Cal.4th 1112, 1123; *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 82; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-151; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1601-1602.
[45] PRC § 21064.5.
[46] *See, e.g., Communities for a Better Environment. v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 319-320.
[47] *Citizens Action to Serve All Students v. Thornley* (1990) 222 Cal.App.3d 748, 754.
[48] *Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th, 1307, 1318; *see also Friends of B Street v. City of Hayward* (1980) 106 Cal.App.3d 988, 1002 ("If there was substantial evidence that the proposed project might have a significant environmental impact, evidence to the contrary is not sufficient to

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As discussed previously, "substantial evidence" required to support a fair argument is "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached."[49] "[I]n marginal cases where it is not clear whether there is substantial evidence that a project may have a significant effect on the environment, the lead agency shall be guided by the following principle: If there is disagreement among expert opinion supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR."[50]

Furthermore, CEQA documents, including EIRs and MNDs, must mitigate significant impacts through measures that are "fully enforceable through permit conditions, agreements, or other legally binding instruments."[51] Deferring formulation of mitigation measures to post-approval studies is generally impermissible.[52]

As detailed below, there is more than a fair argument based substantial evidence that the Project may result in significant impacts to air quality, biological resources, energy, and land use. Therefore, the City must prepare an EIR evaluating the Project's potentially significant impacts and adopt all feasible mitigation measures to reduce those impacts to a less than significant level.

A. Substantial Evidence Supports a Fair Argument the Project Could Result in Significant, Unmitigated Impacts to Air Quality and Public Health

1. *MM AIR-1.1 Fails to Adequately Mitigate the Impacts from Construction NOx Emissions*

The IS concludes that NOx emissions from construction are significant if left unmitigated because it exceeds the Bay Area Air Quality Management District's

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support a decision to dispense with preparation of an EIR and adopt a negative declaration, because it could be 'fairly argued' that the project might have a significant environmental impact").

[49] CEQA Guidelines § 15384(a).

[50] *Id.* § 15064(f).

[51] *Id.* § 15126.4(a)(2).

[52] *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309; PRC § 21061.

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daily thresholds.[53] To reduce this impact to less than significant, the City proposes to institute MM AIR-1.1.[54] This mitigation measure states: "The project applicant shall ensure that all off-road diesel powered equipment used during construction is equipped with engines that meet EPA Tier 4 final emissions standards."[55] This mitigation measure is vague and contains no mechanism to verify compliance.

As identified by Dr. Clark, the measure does not *require* that the Applicant use Tier 4 equipment based on the plain language of the measure.[56] Because the measure, as written, allows the Applicant to avoid use of Tier 4 measures and does not include any type of mechanism for the City to verify that Tier 4 engines are being used during the construction phase, NOx emissions would remain significant and unmitigated.[57]

2. *The City's Calculation of Construction DPM Emissions Remain Significant and Unmitigated*

The City significantly underestimates the Project's diesel particulate matter ("DPM") emissions. As Dr. Clark describes, the modeling assumptions used in the Air Quality and GHG Technical Report were incorrectly analyzed.[58] The construction mitigated emissions modeling contains the same exact assumptions as the unmitigated analysis even though the City intends to implement MM AIR-1.1 to reduce the DPM emissions.[59] Under the assumptions made by the City, the Project's mitigated DPM emissions would emit 970 pounds of DPM.[60] Therefore, the Project's DPM emissions would remain significant even with mitigation. Furthermore, as discussed in the prior section, the proposed mitigation measure is vague and unverifiable, and therefore will not reduce the impacts to less than significant.[61]

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[53] IS at p. 46-47.
[54] *Id.* at p. 47.
[55] *Ibid.*
[56] Clark Comments at p. 4.
[57] *Ibid.*
[58] *Ibid.*
[59] *Compare* IS, appen. 4.2-1, appen. 1B *with* appen. 1B.
[60] Clark Comments at p. 4-5.
[61] *Id.* at p. 4.

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3. The Health Risk Assessment Does Not Properly Evaluate the Potential Risk from Exposure to Diesel Exhaust

The method used by the City to calculate the potential risks from diesel exhaust fails to consider all the toxic components emitted by diesel engines.[62] As Dr. Clark emphasizes, "diesel exhaust is a complex mixture of inorganic and organic compounds that exists in gaseous, liquid, and solid phases."[63] The City's risk assessment does not include an analysis of the vapor phase component.[64] Calculating the cumulative risk from all the components of diesel exhaust is a more precise representation of the risk posed from exposure to the air toxin.[65] Therefore, the City's analysis presents an underestimation of the true risk to residents, the community, and workers from the release of DPM during construction and operation of the Project.[66]

The City must prepare an EIR properly analyzing the Project's air emissions and propose mitigation measures which reduce impacts to a level of insignificance.

B. Substantial Evidence Supports a Fair Argument MM BIO-2.1 Fails to Adequately Mitigate the Impacts to Protected Trees to Less than Significant

The IS recognizes that construction could result in a significant impact due to the removal or disturbance of trees that are protected under the General Plan.[67] To avoid conflicts with the local policy and reduce the potential impacts, the City proposes to implement MM BIO-2.1.[68] This mitigation measure requires that the Applicant submit a Tree Replacement Plan to the City Arborist and Community Development Director for review and approval.[69]

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[62] *Id.* at p. 5.
[63] *Ibid.*
[64] *Ibid.*
[65] *Ibid.*
[66] *Ibid.*
[67] IS at pp. 57-58.
[68] *Id.* at pp. 58-59.
[69] *Id.* at p. 58.

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Consistent with Policy 5.3.1-P10 of the Santa Clara 2010-2035 General Plan ("General Plan"),[70] MM BIO-2.1 requires a tree replacement ratio of 2:1. However, if a 2:1 ratio within the project site is not feasible, the proposed measure allows for a 1:1 ratio upon approval by the Community Development Director. This reduced ratio is not based on any policies set forth in the General Plan; rather, it stems from the City's "past practice and to have an onsite benefit rather than an off-site benefit."[71]

An unwritten rule, which is inconsistent with the General Plan, cannot reduce the Project's potentially significant impacts. If the City desires to change its General Plan policy, the City must propose an amendment to the General Plan and conduct environmental review, pursuant to CEQA, just as it did when the City adopted Policy 5.3.1-P10.[72] Because MM BIO-2.1 permits a replacement rate lower than the rate allowed in the General Plan, the mitigation measure conflicts with local policies adopted to mitigate significant impacts to biological resources. Therefore, the Project's impacts on protected trees remain significant, and the City must prepare an EIR.

C. Substantial Evidence Supports a Fair Argument the Project May Have Significant Impact on Energy Resources

To conclude that the Project's impacts on energy resources during operation would be less than significant, the IS relies on the Project's projected peak power usage effectiveness ("PUE").[73] PUE is used to measure the ratio of power delivered to the site to be used by the IT equipment, and is analogous to the miles per gallon metric for the fuel consumption of a car.[74] But this metric does not always demonstrate success in minimizing energy consumption.[75] In fact, "there are concerns that the metric does not consider the actual productivity or efficiency of the equipment. As a result, a data center in which no infrastructure upgrades are made actually achieves an improved PUE as the IT equipment ages and uses more

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[70] City of Santa Clara, 2010-2035 General Plan (2010) 5-28 (*hereinafter* General Plan).
[71] IS at p. 57.
[72] General Plan at 5-28.
[73] IS at pp. 11, 67.
[74] Whitehead at p. 157.
[75] The Green Grid, White Paper #63: Data Center Environmental Impacts – Main Impacts and Proposal for the Data Center Maturity Model (2014) p. 9.

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power."[76] Therefore, the Project could result in inefficient, wasteful, or unnecessary consumption of energy resources during operation due to aging equipment despite a PUE consistent with the average of other data centers.

Moreover, the Project's PUE may be incorrectly calculated. "To get a 'correct' value for IT equipment energy, measurements would need to be taken at the component level: CPU and other integrated circuits, memory, disks, etc."[77] The variation of how the IT equipment is accounted for "means that PUE measures may not be directly comparable and provides opportunities for organizations to game the ratings."[78] The IS and its supporting documents do not identify the assumptions used to calculate the Project's PUE.[79] As a result, the public is unable to determine whether the PUE identified in the IS is an accurate assessment of the Project's energy consumption.

Lastly, Appendix F of the CEQA Guidelines requires an examination of the "effects of the project on local and regional energy supplies and on requirements for additional capacity."[80] In its will serve letter, SVP stated it would be able to provide 9 MVA of electric service to the Project upon completion of all development work requested by SVP.[81] However, the Project's peak projected load is 13.5 MVA.[82] SVP could provide additional power beyond the 9 MVA if needed, but only up to 4.5 ***KVA***.[83] The IS fails to disclose the fact that the Project's total peak demand exceeds the amount of electricity SVP can provide to the site. Moreover, the IS fails to include mitigation measures for reducing peak energy demand.[84] Therefore, the Project's impacts on energy are potentially significant and remain unmitigated.

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[76] Whitehead at p. 157; *see also* Nathaniel Horner, et al., *Power Usage Effectiveness in Data Centers: Overloaded and Underachieving*, The Electricity Journal 29 (2016) p. 63 ("A low-overhead facility running older, less efficient servers could conceivably achieve a low PUE while still using more energy than it needs.").
[77] Horner at p. 63.
[78] *Ibid.*
[79] *See* IS, appen. 3.0-1.
[80] CEQA Guidelines, appen. F.
[81] IS, appen. 4.6-1.
[82] *Id.*, appen. 3.0-1.
[83] *Id.*, appen. 4.5-1 (emphasis added).
[84] *See* CEQA Guidelines, appen. F.

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The City must prepare an EIR to properly asses the Project's energy impacts and propose feasible mitigation measures to reduce those impacts to less than significant.

D. Substantial Evidence Supports a Fair Argument the Project's Energy Impacts Are Cumulatively Considerable

The City's analysis of the Project's cumulative energy impacts is inadequate. Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or ... compound or increase other environmental impacts."[85] Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts."[86]

A cumulative impact analysis "assesses cumulative damage as a whole greater than the sum of its parts."[87] Such an analysis is necessary because "'[t]he full environmental impact of a proposed ... action cannot be gauged in a vacuum.'"[88] "[A]n agency may not ... [treat] a project as an isolated 'single shot' venture in the face of persuasive evidence that is but one of several substantially similar operations.... To ignore the prospective cumulative harm under such circumstances could be to risk ecological disaster."[89]

Not only is the City's analysis of the Project's cumulative energy impacts insufficient as a matter of law, but substantial evidence supports a fair argument that the Project's incremental effects on energy are cumulatively considerable.

1. *The City Fails to Conduct a Legally Sufficient Analysis of the Project's Cumulative Energy Impacts*

The City fails to conduct a proper inquiry of the Project's cumulative energy impacts. In considering a project's cumulative impacts, the lead agency should generally undertake a two-step analysis. First, the agency should determine

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[85] *Id.* § 15355.
[86] *Id.* § 15130(a)(1).
[87] *Environmental Protection Information Center v. Johnson* (1985) Cal. App. 3d 604, 216.
[88] *Whitman v. Board of Supervisors* (1979) 88 Cal. App. 3d 397, 408 (quoting *Akers v. Resor* (W.D. Tenn. 1978) 443 F. Supp. 1355, 1360).
[89] *Whitman,* 88 Cal. App. 3d at 408.

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whether the combined effects from both the proposed project and other projects would be cumulatively significant.[90] If the agency answers this inquiry in the affirmative, the agency should then analyze whether "the proposed project's *incremental* effects are cumulatively considerable."[91] "An EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. 'Cumulatively considerable' means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."[92]

As a threshold matter, the IS fails to consider all relevant projects in its analysis. The IS identifies ten "recently approved and reasonably foreseeable land use projects in the vicinity of the project site" in Table 4.21-1.[93] None of these projects are data centers.[94] Although the MND claims to include all "recently approved and reasonably foreseeable projects within approximately 2 miles of the project site,"[95] **it omits five (5) proposed data centers within 2 miles of the Project**,[96] as well as six other proposed projects that are currently undergoing, or have recently completed, environmental review:[97]

Project Name	Address	Project Summary
Laurelwood Data Center	2201 Laurelwood Road, Santa Clara, CA 95050	Laurelwood Data Center (LDC) will consist of two multi-storied data center buildings. The maximum electrical load of the LDC is 99 megawatts (MW), inclusive of tenant-installed information technology (IT) equipment in the LDC and cooling and ancillary electrical and telecommunications equipment operating to

[90] *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal. App. 4th 98, 120.
[91] *Id.* (emphasis added).
[92] CEQA Guidelines § 15064(h)(1).
[93] IS at p. 171, table 4.21-1.
[94] *Ibid.*
[95] *Ibid.*
[96] City of Santa Clara, Environmental Review/CEQA, http://santaclaraca.gov/government/departments/community-development/planning-division/ceqa-documents (last accessed Aug. 26, 2019).
[97] *See generally ibid.*; *see also* California Energy Commission, Laurelwood Data Center, 19-SPPE-01, https://ww2.energy.ca.gov/sitingcases/laurelwood/; California Energy Commission, Walsh Data Center, 19-SPPE-02, https://ww2.energy.ca.gov/sitingcases/walsh/.

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		support IT equipment. The LDC consists of two buildings. Building 1 is an approximately 250,560-square-foot, three-story structure with supporting amenities including elevators, restrooms, lobby, staging, and storage. Building 2 is an approximately 283,392-square-foot, four-story structure with supporting amenities including elevators, restrooms, lobby, staging, and storage. Both buildings include loading docks, backup generator yards, stormwater bio-swales, paved surface parking lots, and landscaping features. The LDC also includes an onsite 60-kilovolt (kV) substation with an electrical supply line that will connect to an SVP distribution line located 0.1 miles west of the LDC.[98]
Walsh Data Center	651 Walsh Avenue, Santa Clara, CA 95050	The Walsh Data Center (WDC) would consist of thirty-two (32) 3-MW diesel fired generators that would be used exclusively to provide backup generation to support a data center to be located at 651 Walsh Avenue in Santa Clara, California. The project would also include one (1) 2-MW emergency generator that would provide backup electricity for an administrative building. The project has been designed with a 5-to-make-4 and a 6-to-make-5 design basis to ensure uninterrupted power up to 80 MW, which is the maximum building load of the WDC. The generators will be located in one generator yard in a two-level stacked configuration. The lower level generator package will integrate a dedicated fuel tank with a capacity of 12,800 gallons. The upper level generators will have a day tank with a capacity of 600 gallons. A new distribution substation would be constructed to support the WDC—this substation would ultimately be owned and operated by Silicon Valley Power (SVP) as part of its distribution network. While SVP has not yet designed the 60 kV transmission lines that interconnect the new substation, SVP has estimated that one transmission line will come in to the site from

[98] California Energy Commission, Laurelwood Data Center, 19-SPPE-01, https://ww2.energy.ca.gov/sitingcases/laurelwood/.

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		the north and one from the south, both routes paralleling the existing UPPR rail lines. There may be up to 6 new transmission poles.[99]
1150 Walsh Avenue SV1 Data Center Project	1150 Walsh Avenue, Santa Clara, CA 95050	Demolition of three, one-story industrial buildings totaling 37,443 square feet to construct a four-story, 160,450 square foot data center building, with back-up diesel generators and new 27-megawatt electrical substation, and site-improvements.[100]
2305 Mission College Boulevard Data Center Project	2305 Mission College Boulevard, Santa Clara, CA 95054	Demolition of an existing two-story 358,00 square foot office/R&D and construct a two-story 495,610 square foot data center building with equipment yards and onsite improvements.[101]
McLaren Data Center Project	651, 725, 825 Mathew Street, Santa Clara, CA 95050	Development of two four-story data center buildings totaling 413,000 square feet, electric substation along Mathew Street, mechanical yard support areas, and surface parking lot. A lot line adjustment is proposed as part of the project combining three separate parcels.[102]
3005 Democracy Way Mixed-Use Development Project	3005 Democracy Way, Santa Clara, CA 95050	General Plan Amendment and Planned Development (PD) Rezoning of the 48.6-acre site to allow the development of up to approximately 6.15 million gross square feet (gsf) of residential uses (6,000 units), 3.65 million gsf of office buildings, 400,000 gsf of retail/community amenities, 300,000 gsf of hotel facilities, and 110,000 gsf of educational facilities.[103]
3035 El Camino Real Residential Project	3035 El Camino Real, Santa Clara, CA 95051	Approval of a Rezoning from Thoroughfare Commercial (CT) to Planned Development (PD); and Approval of a Tentative Subdivision Map to allow demolition of existing site improvements and the construction of a new 48-unit residential

[99] California Energy Commission, Walsh Data Center, 19-SPPE-02, https://ww2.energy.ca.gov/sitingcases/walsh/.
[100] City of Santa Clara, Mitigated Negative Declaration: 1150 Walsh Avenue SV1 Data Center (June 2019).
[101] City of Santa Clara, Initial Study for the 2305 Mission College Boulevard Data Center Project (Mar. 2018).
[102] City of Santa Clara, McLaren Data Center Project: Proposed Mitigated Negative Declaration (Feb. 2017); *see also* California Energy Commission, Application for a Small Power Plant Exemption for the McLaren Backup Generating Facility Project, 17-SPPE-01 (Nov. 2018).
[103] City of Santa Clara, Notice of Preparation of an Environmental Impact Report for the 3005 Democracy Way Mixed-Use Development Project (Oct. 2018).

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		condominium development, including six live/work units.[104]
3625 Peterson Office Project	3625 Peterson Way, Santa Clara, CA 95054	Architectural Review of two, eight-story office buildings totaling 632,216 square feet connected by bridges at two levels; a 13,370 square foot, one-story amenity building that includes a roof deck; a four-level parking structure and surface parking providing a total of totaling 2,280 parking spaces on-site; and landscaping and site improvements.[105]
Catalina II Residential Development Project	433-1493 El Camino Real, Santa Clara, CA 95050	Approval of a Rezoning from Thoroughfare Commercial (CT) and General Office (OG) to Planned Development (PD); and Approval of a Vesting Tentative Subdivision Map to allow demolition of the existing improvements and construction of 39-unit townhome development, including seven live/work units.[106]
Corvin Supportive Housing Project	2904 Corvin Drive, Santa Clara, CA 95051	The project would involve demolishing the existing one-story office building onsite and constructing a five-story, 77,430 square foot residential development. Dwelling units would consist of 143 affordable studios, or micro-units, designed for single occupancy and a two-bedroom manager's unit.[107]
Mariani's Inn, Residences & Senior Living Project	2500 El Camino Real, Santa Clara, CA 95051	General Plan Amendment from Community Mixed-Use to Regional Mixed-Use, a Development Agreement, and Rezone of the 7.14-acre project site from CT (Thoroughfare Commercial) to PD (Planned Development) to allow construction of a new mixed-use development, including up to 392 multi-family and senior residential units, a 311-room hotel and restaurant. A one lane bridge over Saratoga Creek would potentially be included for construction as part of the project, extending Arroyo Drive through to Bowe Avenue to

[104] City of Santa Clara, Initial Study: 3035 El Camino Real Residential Project (July 2019).
[105] City of Santa Clara, Notice of Preparation of an Environmental Impact Report for the 3625 Peterson Office Project (Apr. 2018).
[106] City of Santa Clara, Initial Study for the Catalina II Residential Development Project (Mar. 2019).
[107] Department of Housing and Urban Development, 2094 Corvin Drive: Environmental Assessment for HUD-Assisted Projects (Jan. 2019).

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		facilitate vehicular, pedestrian and bicycle connections.[108]

Even ignoring the City's failure to include all relevant projects, the IS fails to analyze whether the combined effects from both the proposed Project and other projects would be cumulatively significant. The IS concludes "some of these projects could contribute to changes to the demand for energy or result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner, which would be considered a significant impact,"[109] but the Project would not result in a cumulative considerable impact on energy because it would include energy-efficiency components, would not conflict with any applicable plans for renewable energy or energy efficiency, and would not result in inefficient, wasteful, or unnecessary consumption of energy resources during construction or operation.[110]

The City's analysis improperly compares the incremental effects of the proposed Project with the collective impacts of all other relevant projects. When undertaking a cumulative impact analysis, an agency cannot simply compare the incremental effects of a proposed project *against* the collective impacts of all other relevant projects yielding the proposed project's relative impact vis-à-vis the impacts of other projects.[111] Rather, the lead agency must *add* the project's incremental impact to the anticipated impacts of other projects.[112] No such analysis has been completed.

At a minimum, the City must prepare an EIR analyzing the collective energy impacts of all past, present, and probable future data centers in the City. Then, the City must analyze whether the Project's incremental contribution to energy is cumulatively considerable. The answer to both these inquiries is a resounding yes – the Project's incremental contribution to energy impacts is cumulatively considerable.

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[108] City of Santa Clara, Notice of Preparation of an Environmental Impact Report for the Mariani's Inn, Residences and Senior Living Project (Feb. 3, 2017).
[109] IS at p. 174.
[110] *Ibid.*
[111] *Communities for a Better Environment,* 103 Cal. App. 4th at 117-121.
[112] *Ibid.*

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2. *The Project's Incremental Effects on Energy Are Cumulatively Considerable*

Despite the substantial energy use by data centers currently and the increasing trend of data center development within the City and the surrounding region, the IS fails to include any meaningful analysis of the cumulative energy impacts.[113] The Project itself will have a significant incremental impact on energy consumption because the Project's projected electricity demand exceeds SVP's ability to meet the demand. The Project applicant estimates the projected peak load is 13.5 MVA.[114] However, SVP is only able to provide up to 9.0045 MVA of electric service to the Project once operational.[115]

In combination with the significant energy use by all other data centers in the City, the Project's energy impacts are cumulatively considerable. Moreover, the MND does not include any mitigation measures which could reduce the cumulative energy impact to less than significant. The City must prepare an EIR examining the significant cumulative energy impacts and identify mitigation measures to reduce the incremental impacts of the Project to a level of insignificance.

IV. THE PROJECT IS INCONSISTENT WITH THE CITY'S GENERAL PLAN

The General Plan establishes goals and policies to guide land use development within the City and identifies land use classifications for areas throughout the City, which specify the allowed uses and the associated density and intensity standards.[116] For non-residential and mixed-use classifications, "intensity" is measured as FAR.[117] Discretionary density and intensity bonuses may be applied to a project if certain criteria are met.[118]

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[113] CEQA Guidelines § 15064(h)(1).
[114] IS, appen. 3.0-1, p. 1.
[115] *Id.*, appen. 4.6-1 ("Silicon Valley Power's ability to provide 9MVA of electric service to 2175 Martin Ave. in Santa Clara is conditional upon the applicant completing all electric utility development work by Santa Clara City Code. If additional capacity beyond 9MVA is demonstrated, SVP will provide an additional ***4.5KVA*** power feed to this site.") (emphasis added).
[116] *Id.* at p. 5-10.
[117] *Id.* at p. 5-11.
[118] *Ibid.*

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The IS correctly finds that the Project is in an area designated by the General Plan as Low-Intensity Office/Research and Development ("R&D") designation.[119] The General Plan describes this land use classification as follows:

> This classification is intended for campus-like office development that includes office and R&D, as well as medical facilities and free-standing data centers, with manufacturing uses limited to a maximum of 20 percent of the building area. It is typically located in areas that provide a transition between light industrial and higher-intensity office and R&D uses. It includes landscaped areas for employee activities and parking that may be surface, structured or below-grade. Accessory, or secondary, small scale supporting retail uses that serve local employees and visitors are also permitted. The maximum FAR is 1.00.[120]

The IS acknowledges that the proposed FAR for the Project is 1.09,[121] in excess of the maximum FAR for the applicable land use designation, but the City contends the Project is consistent with the General Plan Discretionary Use Policy 5.5.1-P9.[122] The City erroneously applies this discretionary policy.

Policy 5.5.1-P9 states:

> For ***Data Centers on Light or Heavy Industrial designated properties***, allow a 20 percent increase in the maximum allowed non-residential square-footage, provided that sufficient onsite land area is available to meet the parking requirements for other uses allowed under those designations, and provided that the increased intensity is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.[123]

This discretionary policy does not apply to areas designated as Low-Intensity Office/R&D. Instead, the policy only applies to projects located in areas designated by the General Plan as light industrial or heavy industrial areas. Consistent with General Plan Policy 5.3.5-P12, the discretionary FAR increase for light industrial or heavy industrial areas are intended to promote development of data centers "in

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[119] IS at pp. 8, 28, 114.
[120] General Plan at p. 5-13.
[121] IS at pp. 8, 28, 116
[122] *Ibid.*
[123] General Plan at p. 5-49 (emphasis added).

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Light and Heavy industrial areas to compliment employment areas and retail uses."[124]

Because the discretionary increase in FAR does not apply to the Project site, and the Project exceeds the applicable maximum FAR, the Project is inconsistent with the General Plan. Therefore, the Project could potentially cause a significant environmental impact due to a conflict with the General Plan. The City must prepare an EIR analyzing the Project's significant impacts on land use, including inconsistency with the General Plan.

V. THE CITY CANNOT APPROVE THE PROJECT BECAUSE IT DOES NOT MEET THE REQUIRED FINDINGS FOR AN ARCHITECTURAL REVIEW APPROVAL

For the Architectural Committee to approve a proposed project, the Committee must find and determine, *inter alia*, "[t]hat the design and location of the proposed development ... is such as not to be determinantal to the harmonious development contemplated by ... the general plan of the City."[125] If the Committee is unable to make the findings and determinations prerequisite to granting of architectural approval, the application must be denied.[126]

As discussed above, the Project is inconsistent with the General Plan because the FAR for the Project exceeds the applicable maximum and no valid exception to this requirement exists.[127] Similarly, the proposed mitigation measure for potentially significant impacts to trees includes a provision which conflicts with the General Plan.[128] Therefore, the Architectural Committee cannot make the necessary findings to approve the Project. The Committee must deny the Project's application as proposed.

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[124] *Id.* at p. 5-27 ("5.3.5-P12 Promote development, such as manufacturing, auto services and data centers, in Light and Heavy Industrial classifications to compliment employment areas and retail uses.").
[125] City of Santa Clara Zoning Ordinance § 18.76.020(c)(3).
[126] *Id.* § 18.76.020(e).
[127] *See supra* Section IV.
[128] *See supra* Section III.B.

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VI. CONCLUSION

The IS and MND are inadequate because the CEQA documents fail to set forth the existing environmental setting, and identify, analyze, and mitigate all potentially significant impacts to air quality, biological resources, energy, and land use. Due to these deficiencies, the City cannot conclude the Project's impacts are mitigated to a less than significant level.

The CEQA Guidelines require that an EIR be prepared if there is substantial evidence supporting a fair argument that any aspect of a project, either individually or cumulatively, may cause a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial.[129] As discussed in detail above, there is more than a fair argument based on substantial evidence that the Project would result in significant adverse impacts not identified in the IS and MND. Moreover, there is substantial evidence the proposed mitigation measures will not reduce potentially significant impacts to a level of insignificance.

Finally, the Project conflicts with Policy 5.3.1-P10 of the General Plan and the applicable FAR in the General Plan. Because the Project is inconsistent with the General Plan, it cannot be approved by the Architectural Committee.

We urge the City to fulfill its responsibilities under CEQA by withdrawing the MND and preparing an EIR to address the issues raised in this comment letter, the attached comments from Dr. Clark, and other public comments in the record. This is the only way the City, decisionmakers, and the public can ensure the Project's significant environmental, public health and safety impacts are mitigated to less than significant levels and that the Project complies with the City's General Plan.

Sincerely,

Andrew J. Graf
Associate

Attachments
AJG:acp

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[129] CEQA Guidelines § 15063(b)(1).

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ATTACHMENT A

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August 22, 2019

Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

Attn: Mr. Andrew J. Graf

Subject: Comment Letter on LS1 Data Center Project Mitigated Negative Declaration (MND) Application PLN2019-13745

Dear Mr. Graf:

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the August, 2019 City of Santa Clara Mitigated Negative Declaration (MND) (File No. PLN2019-13745) for the LS1 Data Center Project, located at 2175 Martin Avenue, Santa Clara, California.

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the plan. If we do not comment on a specific item this does not constitute acceptance of the item.

Project Description:

The proposed project site is a 1.68 acres (73,386 square feet [sf]) and located at 2175 Martin Avenue in Santa Clara, California. The project Proponent proposes to demolish a vacant single-story, 31,088 sf industrial warehouse as well as associated surface parking. In its place, the project Proponent would construct a three-story, approximately 80,000 sf data center building and paved surface parking lot with 20 spaces.

The Proponent is proposing to construct a three-story, approximately 80,000 sf data center building. The building would include two data halls to store computer systems and servers and provide

support space. The proposed project would include approximately 47,800 sf of data hall space and approximately 31,500 sf of support space, consisting of office space, a loading dock, storage space, mechanical/ electric/fiber rooms, and other ancillary uses.

All heating, ventilation, and air-conditioning (HVAC) systems and equipment for the proposed project would be mounted on the roof, behind a 10-foot-high perforated metal screen along the roof perimeter. In addition, ground-mounted equipment would be screened by metal louvers. The height of the building would be approximately 70 feet above the ground surface (approximately 80 feet with the rooftop appurtenances, which are excluded from building height calculations for planning purposes). An approximately 7,700 sf exterior equipment yard would be located along the north side of the proposed building and encircled and screened by a perforated metal screen with a 3-foot concrete base. The yard would house six 2.75 MW emergency generators (likely Caterpillar model 3516E) that would provide backup power to the data center building in the event of an equipment failure or other conditions that would result in an interruption to the electric power service provided by Silicon Valley Power, the electricity provider that serves the project site. The emergency generators would have a total generation capacity of up to 13.75 MW. Each generator would be located within individual custom fit sound attenuated weather enclosure. In addition, each generator would be equipped with a hospital grade Continuously Regenerating Technology (CRT) particulate filter and a residential grade annular flow silencer (Maxim Silencer model AFS2-AFSE2). In addition, the project would include six 10,750-gallon aboveground tanks to store fuel for the proposed generators.

General Comments:

The mitigation method assumed by the City for reducing the air quality impacts from the construction phase of the project is subject to interpretation. Since there is not a verification/reporting component to the mitigation measure there is no way to ensure that the proposed emissions reductions are implemented. The reliance on mitigation measures, which may not actually be enforceable, make the conclusions of the MND suspect.

According to the Initial Study included in the MND, the Project construction would occur in one phase that would consist of three main categories of construction activities. Activity Category 1 (demolition) would include demolition of the building and grading. Activity Category 2 (core and shell) would include buildout of the core and shell structure and installation of pavement, landscaping, and utility connections. Activity Category 3 (interiors) would include buildout of the interior data hall and tenant spaces. Generators, uninterruptible power supply systems, and cooling equipment would also be installed as part of Activity Category 3. The estimated duration of each activity category would be approximately 7.5 weeks for Activity Category 1 (demolition), approximately 39 weeks for Activity Category 2 (core and shell), and approximately 28.5 weeks for Activity Category 3 (interiors), with the potential for Activity Category 2 and Activity Category 3 to overlap. Construction of the proposed project is expected to start in late 2019 and be completed by early 2021. Construction would occur Monday through Friday from 7:00 a.m. to 6:00 p.m. and on Saturday from 9:00 a.m. to 6:00 p.m., in accordance with Chapter 9.10 of the Santa Clara City Code (the City Noise Ordinance).

The City's analysis identifies the nearest sensitive receptors to the project site are the residences approximately 500 feet to the south and 750 feet to the southwest.

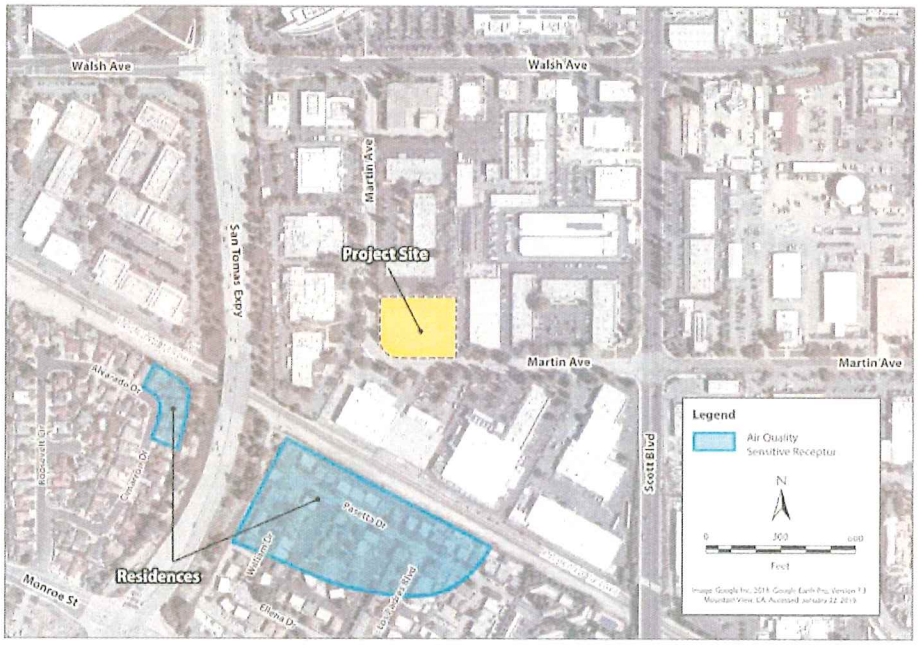

Figure 4.3-1
Air Quality Sensitive Receptors within 1,000 Feet of the Project Site

The findings of the HRA performed by the proponent on the project concluded that the unmitigated cancer risk from DPM for infants, children, and adult residential receptors were calculated to be less than 1 in one-million.

Specific Comments:

1. **The primary identified Air Mitigation Measure (MM AIR 1.1) for the project does not have an enforcement component to it that would prevent the proponent from avoiding the extra cost of the use of Tier 4 Equipment.** Since the unmitigated emission of oxides of nitrogen (NOx) exceed the BAAQMD daily threshold of 54 pounds (lbs) per day (lbs/day), the City identifies mitigation measure MM AIR 1-1 as a way to reduce emissions by requiring the use of U.S. EPA Tier 4 engines in off-road equipment used during construction activities. MM AIR-1.1 states "The project applicant shall ***ensure*** (emphasis added) that all off-road diesel powered equipment used during construction is equipped with engines that meet EPA Tier 4 final emission standards." The measure does not identify any consequence if MM AIR 1-1 is not implemented. The mitigation measure lacks any type of mechanism for the City to verify Tier 4 engines are being used during the project construction phase and as a result, NOx and diesel particulate matter (DPM) emissions from construction would remain significant if they are unmitigated. The City should correct this flaw in a Draft Environmental Impact Report (DEIR).

2. **The City's calculation of DPM emissions is flawed and misrepresents the actual emissions that will impact the community.** The City's analysis assumes a reduction of up to 94% in DPM by the use of Tier 4 equipment during the construction phase (0.68 tons to 0.00273 tons of DPM emitted). Yet a review of the appendices associated with the Air Quality and GHG Technical Report shows a different story. For the Construction Mitigated Emissions Modeling (Appendix 1-B), the two phases of the construction phase (Demolition of existing structure(s) and Core & Shell grading) have the same emission rate of DPM as the unmitigated analysis. For the Earth Moving Section of the analysis, it is assumed that 6.6 lbs of DPM will be emitted each day of the project. This would mean that instead of emitting 8 lbs (0.004 tons listed on the first page of the HRA Calculations and Modeling Files of the Health Risk Assessment Memorandum (appendix 2-A) of the ICF analysis), the project would emit 356.4 lbs of DPM during 2019 (a value 45 times higher than that assumed by the City). During 2020, instead of emitting 46 lbs of DPM (0.023 tons), the project would emit 970 lbs of DPM (a value 21 times higher than that assumed by the City).

Since the potential health risk to receptors in the area is a function of the amount of DPM released during the construction phase of the project it is clear that the initial health risk assessment

significantly underestimates the potential risk to the community (by a factor of 21-45 depending on the phase of construction). The risk to the community (based on the values in Appendix 1-B) would exceed the 10 in 1,000,000 threshold outlined in the CEQA guidance by BAAQMD for new projects. The City should correct their analysis and present the results in a Draft Environmental Impact Report (DEIR).

3. **The HRA evaluation offered in the Initial Study underestimates the potential risk from exposure to diesel exhaust since it does not account for the toxicity associated with all phases of diesel exhaust and the relative impact they will have on the receptors.** While the method utilized is the current method proposed by regulatory agencies, the list of chemicals of concern still fails to consider all of the toxic components emitted by diesel engines. CARB[1] defined diesel exhaust as a complex mixture of inorganic and organic compounds that exists in gaseous, liquid, and solid phases. CARB and U.S. EPA identify 40 components of the exhaust as suspected human carcinogens, including formaldehyde, 1,3-butadiene, and benzo[a]pyrene. The inhalation unit risk factor identified by OEHHA for use in risk assessments is for the particulate matter (DPM) fraction of diesel exhaust and not the vapor phase components identified by CARB and U.S. EPA.

In the 2017 Air Quality Technical Report[2] submitted in support of the Draft EIR for the Turk Island Landfill Consolidation and Residential Subdivision[3], proponents accounted for the gaseous phase of diesel emission and detailed the speciated diesel total organic gas (TOG) emissions along with the DPM emissions for all construction equipment. The speciated diesel TOG emissions and DPM emissions were utilized in dispersion modeling to identify the maximally exposed individual sensitive receptor (MEISR) of the project to determine the health risks associated with all sources of air toxins from the construction phase of the project.

It is clear that the calculation of the cumulative risk from all the component parts of diesel exhaust is not double counting the risk, rather it is actually a more precise representation of the risk

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[1] CARB. 1998. Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A, Public Exposure To, Sources and Emissions of Diesel Exhaust In California. April 22, 1998. Pg A-1.

[2] Ramboll Environ. 2017. Air Quality Technical Report Turk Island Landfill Consolidation And Residential Subdivision Project. Prepared For City of Union City, Union City, CA. Prepared by Ramboll Envion US Corporation, San Francisco, CA August, 2017.

[3] Union City. 2018. Draft Environmental Impact Report (DEIR) Turk Island Landfill Consolidation And Residential Subdivision Project. SCH Number 20008112107. Dated 3/15/2018.

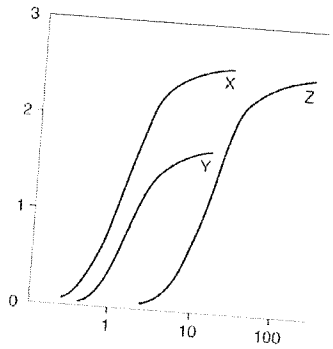
posed from exposure to the air toxin. The City's analysis presents an underestimation of the true risk to the residents in the community from the release of DPM during the construction and operational phases of the project. This omission is a continuing flaw that must be addressed by the City and the results should be presented in a DEIR.

Conclusion

The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant unmitigated impacts if the conditions of approval are not binding.

Sincerely,

JAMES J. J. CLARK, Ph.D.



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James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

Professional Experience:

Dr. Clark is a well-recognized toxicologist, air modeler, and health scientist. He has 25 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling, RESRAD, GENII); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

LITIGATION SUPPORT

Case: Scott D. McClurg, et al. v. Mallinckrodt Inc. and Cotter Corporation. Lead Case No.: 4:12CV00361 AGF United States District Court Eastern District of Missouri Eastern Division

Client: Environmental Law Group, Birmingham, AL.

Dr. Clark performed a historical dose reconstruction for community members and workers exposed to radioactive waste released into the environment from the St. Louis Air Port Site (SLAPS) and the Hazelwood Interim Storage Site (HISS). The releases resulted in impacts to soils, sediments, surface waters, and groundwater in the vicinity of the SLAPS and HISS sites. The analysis included the incorporation of air dispersion modeling across the

community to determine ground-level air concentrations and deposition of thorium and uranium isotopes and their respective daughter products. The dose reconstruction considered all relevant pathways to determine total doses of radiation received across the community from 1946 through 2017.

Case Result: Settlement in favor of plaintiff.

Case: Mary Ann Piccolo V. Headwaters Incorporated, et al. Seventh Judicial Court In and For Carbon County, State of Utah. Case No. 130700053

Client: Law Offices of Roy L. Mason. Annapolis, MD

Dr. Clark performed a dose assessment of an individual occupationally exposed to metals and silica from fly ash who later developed cancer. A review of the individual's medical and occupational history was performed to prepare opinions regarding his exposure and later development of cancer.

Case Result: Settlement in favor of plaintiff.

Case: Tracey Coleman V. Headwaters Incorporated, et al. Seventh Judicial Court In and For Carbon County, State of Utah. Case No. 140902847

Client: Law Offices of Roy L. Mason. Annapolis, MD

Dr. Clark performed a dose assessment of an individual occupationally exposed to metals and silica from fly ash who later developed cancer. A review of the individual's medical and occupational history was performed to prepare opinions regarding his exposure and later development of cancer.

Case Result: Settlement in favor of plaintiff.

Case: David Dominguez and Amanda Dominguez V. Cytec Industries, Inc et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. BC533123

Client: Rose, Klein, Marias, LLP, Long Beach, California

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to hexavalent chromium who later developed cancer. A review of the individual's medical and occupational history was performed to prepare opinions regarding her exposure and later development of cancer.

Case Result: Settlement in favor of plaintiff.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client – Confidential

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model were used to estimate acute and chronic exposure concentrations to multiple contaminants and were be incorporated into a comprehensive risk evaluation.

Client – Confidential

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

Client: Omnitrans, San Bernardino, California

Dr. Clark managed a public health survey of three communities near transit fueling facilities in San Bernardino and Montclair California in compliance with California Senate Bill 1927. The survey included an epidemiological survey of the effected communities, emission surveys of local businesses, dispersion modeling to determine potential emission concentrations within the communities, and a comprehensive risk assessment of each community. The results of the study were presented to the Governor as mandated by Senate Bill 1927.

Client: Confidential, San Francisco, California

Summarized cancer types associated with exposure to metals and smoking. Researched the specific types of cancers associated with exposure to metals and smoking. Provided causation analysis of the association between cancer types and exposure for use by non-public health professionals.

Client – United Kingdom Environmental Agency

Dr. Clark is part of team that performed comprehensive evaluation of soil vapor intrusion of VOCs from former landfill adjacent residences for the United Kingdom's Environment

Agency. The evaluation included collection of liquid and soil vapor samples at site, modeling of vapor migration using the Johnson Ettinger Vapor Intrusion model, and calculation of site-specific health based vapor thresholds for chlorinated solvents, aromatic hydrocarbons, and semi-volatile organic compounds. The evaluation also included a detailed evaluation of the use, chemical characteristics, fate and transport, and toxicology of chemicals of concern (COC). The results of the evaluation have been used as a briefing tool for public health professionals.

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: Ameren Services, St. Louis, Missouri

Managed the preparation of a comprehensive human health risk assessment of workers and residents at or near an NPL site in Missouri. The former operations at the Property included the servicing and repair of electrical transformers, which resulted in soils and groundwater beneath the Property and adjacent land becoming impacted with PCB and chlorinated solvent compounds. The results were submitted to U.S. EPA for evaluation and will be used in the final ROD.

Client: City of Santa Clarita, Santa Clarita, California

Dr. Clark managed the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Immanent and Substantial Endangerment Order. Dr. Clark assisted the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of perchlorate in environment. Dr. Clark evaluated the production, use, chemical characteristics, fate and transport, toxicology, and remediation of perchlorate. Perchlorates form the basis of solid rocket fuels and have recently been detected in water supplies in the United States. The results of this research were presented

to the USEPA, National GroundWater, and ultimately published in a recent book entitled *Perchlorate in the Environment.*

Client – Confidential, Los Angeles, California

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

Client: Covanta Energy, Westwood, California

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

Client – United Kingdom Environmental Agency

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (M*t*BE) for the United Kingdom's Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of M*t*BE. The results of the evaluation have been used as a briefing tool for public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of *tertiary* butyl alcohol (TBA) in municipal drinking water system. TBA is the primary breakdown product of M*t*BE, and is suspected to be the primary cause of M*t*BE toxicity. This evaluation will include available information on the production, use, chemical characteristics, fate and transport in the environment, absorption, distribution, routes of detoxification, metabolites, carcinogenic potential, and remediation of TBA. The results of the evaluation were used as a briefing tool for non-public health professionals.

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been were used as a briefing tool for non-public health professionals.

Client – Ministry of Environment, Lands & Parks, British Columbia

Dr. Clark assisted in the development of water quality guidelines for methyl tertiary-butyl ether (MTBE) to protect water uses in British Columbia (BC). The water uses to be considered includes freshwater and marine life, wildlife, industrial, and agricultural (e.g., irrigation and livestock watering) water uses. Guidelines from other jurisdictions for the protection of drinking water, recreation and aesthetics were to be identified.

Client: Confidential, Los Angeles, California

Prepared physiologically based pharmacokinetic (PBPK) assessment of lead risk of receptors at middle school built over former industrial facility. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client: Kaiser Venture Incorporated, Fontana, California

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Client: Confidential, Atlanta, Georgia

Researched potential exposure and health risks to community members potentially exposed to creosote, polycyclic aromatic hydrocarbons, pentachlorophenol, and dioxin compounds used at a former wood treatment facility. Prepared a comprehensive toxicological summary of the chemicals of concern, including the chemical characteristics, absorption, distribution, and carcinogenic potential. Prepared risk characterization of the carcinogenic and non-carcinogenic chemicals based on the exposure assessment to quantify the potential risk to members of the surrounding community. This evaluation was used to help settle class-action tort.

Client: Confidential, Escondido, California

Prepared comprehensive Preliminary Endangerment Assessment (PEA) of dense non-aqueous liquid phase hydrocarbon (chlorinated solvents) contamination at a former printed circuit board manufacturing facility. This evaluation was used for litigation support and may be used as the basis for reaching closure of the site with the lead regulatory agency.

Client: Confidential, San Francisco, California

Summarized epidemiological evidence for connective tissue and autoimmune diseases for product liability litigation. Identified epidemiological research efforts on the health effects of medical prostheses. This research was used in a meta-analysis of the health effects and as a briefing tool for non-public health professionals.

Client: Confidential, Bogotá, Columbia

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of a 13.7 hectares plastic manufacturing facility in Bogotá, Colombia The risk assessment was used as the basis for the remedial goals and closure of the site.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally cadmium) and VOCs from soil and soil vapor at 12-acre former crude oilfield and municipal landfill. The site is currently used as a middle school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and was used as the basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

Client: Confidential, Los Angeles, California

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally lead), VOCs, SVOCs, and PCBs from soil, soil vapor, and groundwater at 15-acre former manufacturing facility. The site is currently used as a year round school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and will be basis for regulatory closure of site.

Client: Confidential, Los Angeles, California

Prepared comprehensive evaluation of VOC vapor intrusion into classrooms of middle school that was former 15-acre industrial facility. Using the Johnson-Ettinger Vapor Intrusion model, the evaluation determined acceptable soil gas concentrations at the site that did not pose health threat to students, staff, and residents. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client –Dominguez Energy, Carson, California

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of 6-acre portion of a 500-acre oil and natural gas production facility in Carson, California. The risk assessment was used as the basis for closure of the site.

Kaiser Ventures Incorporated, Fontana, California

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

ANR Freight - Los Angeles, California

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

Kaiser Ventures Incorporated, Fontana, California

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

Unocal Corporation - Los Angeles, California

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

Client: Confidential, Los Angeles, California

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

Client: Confidential, San Francisco, California

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

Client: Confidential, San Francisco, California

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

IT Corporation, North Carolina

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

Professional Associations

American Public Health Association (APHA)
Association for Environmental Health and Sciences (AEHS)
American Chemical Society (ACS)
International Society of Environmental Forensics (ISEF)

Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

Sullivan, P., **J.J. J. Clark,** F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.

Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.

Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.

Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.

Clark, J.J.J. 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment*. Art Diaz, Ed.. Oxford University Press: New York.

Clark, J.J.J. 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment*. Edward Urbansky, Ed. Kluwer/Plenum: New York.

Clark, J.J.J. 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

Journal and Proceeding Articles

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equialency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research*. 105:194-199.

Rosenfeld, P.E., **Clark, J. J.,** Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" Water Science & Technology. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13th Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

Clark, J.J.J. 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophnoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.

Clark, J.J.J., Brown A. 1999. Perchlorate Contamination: Fate in the Environment and Treatment Options. In Situ and On-Site Bioremediation, Fifth International Symposium. San Diego, CA, April, 1999.

Clark, J.J.J. 1998. Health Effects of Perchlorate and the New Reference Dose (RfD). Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Clark, J.J.J., Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

Clark J.J.J., Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

Clark, J.J.J.; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. Toxicologist. 30(1):14.

Dodge, D.G.; **Clark, J.J.J.**; Kerger, B.D.; Richter, R.O.; Finley, B.L.; Paustenbach, D.J. 1996. Assessment of Airborne Hexavalent Chromium In The Home Following Use of Contaminated Tapwater. Toxicologist. 30(1):117-118.

Paulo, M.T.; Gong, H., Jr.; **Clark, J.J.J.** (1992). Effects of Pretreatment with Ipratroprium Bromide in COPD Patients Exposed to Ozone. American Review of Respiratory Disease. 145(4):A96.

Harber, P.H.; Gong, H., Jr.; Lachenbruch, A.; **Clark, J.**; Hsu, P. (1992). Respiratory Pattern Effect of Acute Sulfur Dioxide Exposure in Asthmatics. American Review of Respiratory Disease. 145(4):A88.

McManus, M.S.; Gong, H., Jr.; Clements, P.; **Clark, J.J.J.** (1991). Respiratory Response of Patients With Interstitial Lung Disease To Inhaled Ozone. American Review of Respiratory Disease. 143(4):A91.

Gong, H., Jr.; Simmons, M.S.; McManus, M.S.; Tashkin, D.P.; Clark, V.A.; Detels, R.; **Clark, J.J.** (1990). Relationship Between Responses to Chronic Oxidant and Acute Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

Tierney, D.F. and **J.J.J. Clark.** (1990). Lung Polyamine Content Can Be Increased By Spermidine Infusions Into Hyperoxic Rats. American Review of Respiratory Disease. 139(4):A41.