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Placer County, Planning Services Division
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Re: **Village at Squaw Valley Specific Plan Draft Environmental Impact Report** (SCH No. 2012-102-023)

Dear Planning Services Division:

Thank you for the opportunity to submit the following comments on behalf of the group Tahoe Residents United for Sustainable Squaw Tourism ("TRUSST" or "Commenters") concerning the Draft Environmental Impact Report ("DEIR") for the Village at Squaw Valley Specific Plan (SCH No. 2012-102-023) (the "Project"). [1]

After reviewing the DEIR, together with our team of expert consultants, it is evident that the document contains numerous errors and omissions that preclude accurate analysis of the Project. As a result of these inadequacies, the DEIR fails as an informational document and fails to impose feasible mitigation measures to reduce the Project's impacts. Commenters request the Placer County Planning Services Division, the Placer County Board of Supervisors, and your staffs address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project.

Commenters have submitted expert comments from expert hydrogeologist Matthew Hagemann, P.G., C. Hg., who concludes that the water supply impacts of the Project have not been properly analyzed or mitigated in the DEIR because the current and potentially worse future drought conditions have not been analyzed.

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[1] We reserve the right to supplement these comments at later hearings and proceedings for the Proposed Project. *See Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal.App.4th 1109.

Mr. Hagemann also concludes that the Project's construction-related air quality impacts have not been properly analyzed. Using a revised model that accurately accounts for the Project's air quality emissions during construction, Mr. Hagemann concludes that the Project will have significant air quality and greenhouse gas impacts that have not been disclosed and must be mitigated. Mr. Hagemann's comments and curriculum vitae are attached hereto as Exhibit 1 and are incorporated by reference in their entirety.

Commenters have also submitted comments from expert Urban Planner Terry Watt, who critiques the DEIR's failure to examine the ***offsite*** growth inducing impacts of the Project. Ms. Watt concludes that the DEIR provides an incomplete and flawed analysis of Project-induced population growth, and as a result, fails to adequately analyze related impacts to housing, public services, and related facilities. Ms. Watt's comments and curriculum vitae are attached hereto as Exhibit 2 and are incorporated by reference in their entirety.

Each of Mr. Hagemann and Ms. Watt's comments requires separate responses in the Final EIR. For these reasons, a revised DEIR should be prepared prior to Project approval to analyze all impacts and require implementation of all feasible mitigation measures.

I. BACKGROUND

The proposed Village at Squaw Valley Specific Plan ("Project" or "Specific Plan") is meant to develop a year-round destination resort that provides a wide range of destination resort services and amenities to guests and residents on site. DEIR 2-2. The Specific Plan would allow for development of resort hotel, residential, commercial, retail, and recreational uses, including lodging, skier services, retail shopping, restaurants and bars, entertainment, and public and private recreational facilities over an estimated 25-year buildout period. DEIR 2-2.

The Project would be the first specific plan approved under the Squaw Valley General Plan and Land Use Ordinance, which was adopted by Placer County in 1983. DEIR 2-1. The Project includes adoption of the specific plan itself and implementation of the associated development proposal. If approved, the Project would amend the Squaw Valley General Plan and Land Use Ordinance to redesignate the Project site as "Specific Plan"

The Project site is located within the 4,700-acre Squaw Valley (also known as the Olympic Valley) in northeastern Placer County, within the Sierra Nevada. DEIR 2-1. The Specific Plan area encompasses approximately 94 acres total, consisting of two separate areas, the main Village and the East Parcel. DEIR 2-2.

A. Village Area

The 85-acre main Village area would be located at the base of Squaw Valley Ski Resort, and would consist of two main zones: the Village Core and the Village Neighborhood. DEIR 2-3. The Village Core consists of a mix of uses and activities concentrated near the ski slopes and the existing Village, with higher density lodging, the Mountain Adventure Camp, and retail and restaurant spaces. *Id*. The Village Neighborhood would consist of medium-density resort

residential neighborhoods and smaller-scale neighborhood-serving commercial uses. *Id*. Specifically, the main Village Area would include:

- **Resort Residential:** Up to 1,493 bedrooms in up to 850 units (mix of hotel, condo hotel, fractional ownership, timeshares)
- **Commercial:** 297,733 square feet of tourist-serving commercial space
- **Mountain Adventure Camp:** a 90,000 square foot Mountain Adventure Camp would include an indoor/outdoor pool system, water slides, and other water-based recreation. It would also provide other entertainment options potentially including indoor rock-climbing, a movie theater, a bowling alley, and a multi-generational arcade.
- **Parking:** 3,297 parking spaces in separate parking structures, and up to 1,800 additional parking spaces in podium parking under new building within the Project area.
- **Restoration of Squaw Creek:** A 150-200 foot wide conservation corridor would be provided for the length of the Creek throughout the Project area.
- **Removal of Commercial and Employee Housing:** Removal of 91,522 square feet of existing commercial space and two existing employee housing structures would be removed.

B. Eastern parcel

The 8.8-acre East Parcel will be located on a disconnected piece of land approximately 1.3 miles east of the Village. DEIR 2-2. The East Parcel will consist of employee housing (up to 50 employee housing units for up to 300 employees), employee parking, a 15,000 square foot shipping and receiving facility, and a 5,000 square foot market. DEIR 2-3.

II. LEGAL STANDARDS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). *See, e.g.*, Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Comms. for a Better Env't v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1). "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.'" *Citizens of Goleta*

Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564. 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." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs*. (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); *see also Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." Pub.Res.Code ("PRC") § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B).

III. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE ALL POTENTIALLY SIGNIFICANT IMPACTS.

As discussed below, and in the attached expert comment letters of expert hydrogeologist Matthew Hagemann, P.G., C. Hg., and expert urban planner Terry Watt, the EIR for this Project fails to adequately analyze and mitigate the Project's impacts. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. CEQA requires that a lead agency analyze all potentially significant environmental impacts of its proposed actions in an EIR. PRC § 21100(b)(1); CEQA Guidelines § 15126(a); *Berkeley Jets*, 91 Cal.App.4th 1344, 1354. The EIR must not only identify the impacts, but must also provide "information about how adverse the impacts will be." *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831. The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Cmtys. for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 391 409, fn. 12. A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*

(1994) 27 Cal. App. 4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.

A. WATER SUPPLY IMPACTS HAVE NOT BEEN ADEQUATELY ANALYZED OR MITIGATED.

The seriousness of the state's water concerns mean that large-scale projects like this must be carefully planned to ensure adequate supplies of water, even in times of severe drought. Pursuant to legislation enacted in 2001, cities and counties are required to verify that adequate long-term water supplies exist for large development projects.[2] These laws, working in conjunction with CEQA, force municipalities to consider how they will supply water to new projects. Thus, when an agency considers a detailed project proposal that would require additional water, the public must have an opportunity to consider, in a detailed EIR, the project's water supply and mitigation measures and alternatives that would lessen the related impacts.[3] This detailed analysis is referred to as a Water Supply Assessment ("WSA").

The WSA reveals that the Project comprises the largest single added demand in the basin over the next 25 years. DEIR 18-43. The DEIR estimates that new water demands from the Project and other cumulative development will increase by an estimated 363 acre feet per year over that time period. DEIR 18-42. The DEIR states that water for the Project would be provided from the local groundwater basin through a series of existing and new wells, with an overall well field designed to serve existing, Project, and other planned uses. DEIR 14-3, WSA ES-2. Water would be delivered to the plan area from strategically placed wells that would work in concert with existing wells in the Valley. WSA ES-3. In order to evaluate the impact of this future development on the aquifer, the WSA used an existing groundwater model that was modified to predict future drawdowns in wells that will be used to supply water for the Project and cumulative projects. Hagemann Comment, p. 2.

Based on this model the DEIR and the WSA conclude that there are adequate water supplies for the Project. According to Mr. Hagemann, however, serious questions about water supply remain in light of a protracted drought and a changing climate.

1. The DEIR Fails to Properly Model the Effects of Drought Conditions on Water Supply.

Expert hydrogeologist Matthew Hagemann concludes that the DEIR's groundwater analysis is incomplete because the model it relies on fails to incorporate climatological and hydrological data from the current four-year drought or a potential "mega drought," and fails to consider the impact of global warming on groundwater supply. Hagemann Comment, pp. 1-3.

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[2] Water Code, § 10910 (Assembly Bill 610); Gov. Code, § 66473.7.
[3] Pub. Res. Code 21093(a); CEQA Guidelines, 15152(a)-(c).

The WSA's analysis is flawed because it only utilized data from May 1992 through December 2011. *Id.* The WSA notes that this time period includes "a single dry year (2007) and multiple year dry period (1999-2001)." DEIR 14-35. But what the WSA analysis fails to disclose is that the 1992-2011 time period also included very wet years, including the 1996 wet year (second wettest year in Lake Tahoe in over 100 years), 2011 (fifth wettest on record), and a multiple wet-year period from 1996-1999. Hagemann Comment, p. 2. The DEIR's implication that the model incorporated dry period conditions or drought conditions is misleading. *Id*.

The DEIR admits that the current and ongoing California drought "may produce a more severe multiple year drought than any within the available historical dataset or model study period." DEIR 14-35. It further provides that:

> It is possible that during periods of extreme drought in the future (e.g., future single and multiple dry years) there might not be available runoff to fill up the Basin. These events are expected to be limited and the Basin would easily recover to maximum capacity after a year of normal precipitation, because normal runoff substantially exceeds Basin capacity.

DEIR 14-7.

As Mr. Hagemann points out, this vague and unsupported statement is the extent of the DEIR's consideration of drought conditions. Hagemann Comment, p. 3. The DEIR does not even attempt to model the current drought or future (and potentially more severe) droughts that are predicted to result from the changing climate. *Id.*

Scientists predict that a changing climate will continue to impact groundwater. *Id*. Mr. Hagemann points to a study concluding that the effects of warming climate on groundwater supplies will be "immediate and drastic" including less groundwater recharge as a result of increased surface flow and less total precipitation. *Id*. According to Mr. Hagemann:

> To fail to incorporate data into the groundwater model from ongoing drought and severe "megadroughts" (which last two decades or longer) is a gross omission. Failure to model droughts places the reliability of the model as a tool for decision-making about a sustainable Project water supply into serious doubt.

Hagemann Comment, p. 3.

A revised DEIR must include a groundwater model that incorporates current drought conditions, as well as an even more severe drought conditions that may result from ongoing climate change. Hagemann Comment, p. 3. A "worst-case-scenario" groundwater model should also be prepared to evaluate a possible "megadrought" in light of the impact of climate change on groundwater supplies. *Id.* Impacts on the lowest groundwater elevations, which are most critical for water supply in the Olympic Valley, should be a focus of the model to ensure a reliable future supply of water. *Id*. at p. 4.

A complete water supply assessment model should include the following data:

- The reduction in groundwater recharge and in-stream flow from snowpack in the Sierras which, according to the Natural Resources Conservation Service, is the "lowest in a century."
- Precipitation records post-2011 that correlate to the period of the current drought.
- Post-2011 groundwater data from monitoring wells and production wells complete in both alluvium and fractured bedrock in the Olympic Valley Groundwater Basin.
- Temperature records that show warming in the Tahoe area, as experienced during the current drought period, and the effect on snowmelt.

Hagemann Comment, pp 3-4. Without this information, the DEIR and the WSA fail as an informational document.

2. Mitigation Measures Identified in the DEIR are Insufficient to Address a Prolonged Drought Scenario and Constitute Deferred Mitigation.

The mitigation measures provided in the DEIR related to water supply are not adequate to address prolonged drought conditions, are unsupported by substantial evidence, and constitute legally inadequate deferred mitigation, in violation of CEQA.

Mitigation measure 13-4 purports to ensure an adequate water supply for the Project, even in dry and multiple-dry years. However this conclusion is not supported by substantial evidence because a multiple dry year scenario, like the one we are currently experiencing, was not even modeled in the DEIR. Hagemann Comment, p. 4.

The DEIR concludes that "[b]ecause implementation of Mitigation Measure 14-1a would reduce the uncertainty associated with well system design and operation, and would assure the drawdown effects are managed to avoid insufficient groundwater levels, the potential impact due to increased demand for potable and irrigation water would be less than significant." DEIR 14-36. The DEIR continues, next concluding that "implementation of Mitigation Measures 14-1b and 14-1c would ensure that a sufficient water supply is available to the project and that the applicable water supplier intends to serve the project." DEIR 14-36.

These conclusory statements do nothing to ensure Project water demands will be met. Instead, a revised DEIR needs to include mitigation measure to actively ensure Project water demands are met through increased conservation, increased stormwater recharge, and aggressive non-potable reuse including use of recycled water, use of graywater, and rainwater capture. Hagemann Comment, p. 5. Mitigation measures should be included in a revised DEIR that require specific steps aimed at conservation and recharge to meet Project and cumulative demands even during prolonged droughts. *Id*. Mr. Hagemann points to the following specific mitigation measure that should be included in a revised DEIR include:

- Advanced conservation measures including use of waterless toilets and low-water-use landscaping;
- On-site water recycling to be used for snowmaking, as is being done at other US ski resorts;
- Design features should be constructed to allow for graywater reuse and rainwater capture at specific Project elements, such as at the resort hotel and retail shopping areas as well as toilet flushing
- Increased stormwater recharge through detention and infiltration both on-site and in strategic areas within the groundwater basin.
- Replace lawns and other water-consumptive vegetation in the Project area.

Hagemann Comment, p. 5-6.

In addition, no water supply agreement has been made for the Project, and the availability of sufficient water supplies has not been verified by a utility. Instead, the DEIR only provides for mitigation to obtain a "will-serve agreement" at a later date (mitigation measure 14-1c) and to verify availability of water supplies after the EIR is certified (mitigation measure 14-1b). As Mr. Hagemann points out, because of the need to obtain future agreements and verification, mitigation is deferred and the public is denied the opportunity to evaluate if these mitigation measures are adequate. Hagemann Comment, p. 6. Mr. Hagemann adds that:

> Will-serve agreements are routinely included in DEIRs for other projects undergoing CEQA review. The omission of a will-serve agreement is a significant shortcoming in the DEIR and casts doubt on the ability of the Squaw Valley Public Services District to provide water for the Project. Likewise, the lack of verification that water supplies are available speaks volumes about the reliability of the water supply for the Project.

Hagemann Comment, p. 6.

A revised DEIR should be prepared that discusses the feasibility of these additional mitigation measures.

B. CONSTRUCTION-RELATED AIR QUALITY IMPACTS HAVE NOT BEEN ADEQUATELY ANALYZED OR MITIGATED.

The EIR fails to adequately analyze the Project's construction emissions, and as a result, improperly concludes that the Project will not result in significant air quality impacts from construction. As explained below, a proper analysis reveals that Project construction will result in significant air quality impacts from nitrogen oxide ("NOx") and reactive organic gases ("ROG" a/k/a volatile organic compounds ("VOCs")) emissions, and those impacts must be mitigated.

1. The DEIR Inadequately Analyzes Maximum Daily Construction Emissions.

The Project is expected to be constructed over the course of 20 to 25 years. DEIR __. According to the DEIR, in the single most active possible construction year, no more than 20 percent of the total Project construction would occur. DEIR 3-33. With this in mind, to determine maximum daily emission that would occur during a single year, the DEIR models construction emissions assuming that the entire Project would be constructed in a single year, and then taking 20 percent of those values to determine the maximum daily emissions. DEIR Appendix H, p. 5; Hagemann Comment, p. 6.

As explained in detail in Mr. Hagemann's comment, use of this method was improper, and resulted in a significant underestimate of the Project's construction emissions. Mr. Hagemann proposes an alternative method that more accurately estimates the maximum daily emissions that could occur within a single year. Hagemann Comment, p. 7.

When the construction schedule of a project is shortened, the default equipment list provided by the CalEEMod model does not automatically change, and instead the adjustments must be made manually. Hagemann Comment, p. 7. The general rule for construction equipment is that when the schedule is shortened by half, then the number of equipment needs to be doubled. *Id*. The Project's CalEEMod output files, provided in Appendix H, demonstrate that the amount of construction equipment was not adjusted to account for the decrease in the construction schedule. *Id*.; DEIR Appendix H, pp. 101-102. This omission undermines the method used in the DEIR.

In addition, the CalEEMod default equipment list, used by the DEIR, is only valid for projects 35-acres and smaller. Hagemann Comment, p. 7. Since the Project would require 57 acres to undergo construction, relying on CalEEMod's default equipment list rendered the emissions estimates even less accurate. Hageman Comment, p. 7.

Because of these errors and omissions in the DEIR's model, Mr. Hagemann recommends an alternative method that should be used to properly estimate the emissions that could occur during a single year. *Id*.

2. Project Construction will Create Significant Air Quality Impacts.

Data provided by the DEIR allowed Mr. Hagemann to use an alternative method to determine the maximum construction emissions that could be produced from Project construction in a single year.

This alternative analysis continues to rely on the assumption that, during the single most active construction year, no more than 20 percent of the Project would be constructed. Hagemann Comment, p. 8. Rather than assuming all construction takes place in a single year and then taking 20 percent of that total, Mr. Hagemann's analysis directly estimates the emissions from constructing 20 percent of the Project. *Id.*

The DEIR summarizes the proposed Project components according to land use, and estimates the percentage of the Project area that each land use comprises. Hageman Comment, p. 7. While these numbers disclose the percentage of the total Project area each land use encompasses, this is not necessarily the percentage of the Project's total construction effort. Hagemann Comment, p. 8. Appendix H provides a detailed summary of the Project's anticipated construction activities according to the land use type and lot number. Hagemann Comment, p. 8. Using these two data sets, Mr. Hagemann was able to estimate the percentage for each development compared to the total construction area, and then determine which land uses would most accurately represent 20 percent of the Project's total construction effort. Hagemann Comment, pp. 8-10.

Mr. Hagemann's analysis determined that construction of approximately 477 condo/hotel units an 67,264 square feet of commercial and retail developments represented 20.2 percent of the Project's total construction efforts. Hagemann Comment, p. 10. Mr. Hagemann than used CalEEMod to model the emissions from construction of these uses. *Id*.

The results of Mr. Hagemann's model demonstrate that when accurately estimating emissions from construction of 20 percent of the total Project, emissions are much higher than those disclosed in the DEIR. Hagemann Comment, p. 12. Under Mr. Hagemann's model, ROG emissions increase from 32.2 to 105.6 lbs/day, NOx emission increase from 53.3 to 237.3 lbs/day, PM10 emissions increase from 8.9 to 41.06 lbs/day, and PM 2.5 emissions increase from 4.5 to 25.83 lbs/day. Importantly, NOx and ROG emission under Mr. Hagemann's model exceed the Placer County Air Pollution Control District's significance threshold of 82 lbs/day, and would therefore result in a significant impact. Hagemann Comment, p. 12.

Construction of 20 Percent of Project ***Maximum Daily Emissions (pounds/day):***				
	ROG	NOx	PM10	PM2.5
Hagemann Model	105.6	237.30	41.06	25.83
DEIR Emission Estimates	32.2	53.3	8.9	4.5
PCAPCD Threshold	82	82	82	NA
Exceed under Hagemann model?	***Yes***	***Yes***	***No***	**-**
Exceed under DEIR model?	***No***	***No***	***No***	

An updated DEIR should be prepared using this revised model to more accurately reflect the air quality impacts of the Project's construction.

3. Additional Mitigation Measures are Needed to Mitigate Significant Construction-Related Air Quality Impacts.

Since Project construction will result in significant air quality impacts, the DEIR should be revised to include discussion of additional mitigation measures to reduce NOx and ROG

emissions. NOx is a byproduct of fuel combustion, so a reduction in the total vehicle miles traveled by construction workers would result in a reduction of NOx emissions. Hageman Comment, p. 13. Additionally, reducing emissions from heavy-duty off-road construction equipment would also reduce NOx and ROG emissions. Hagemann Comment, p. 13. To reduce this effect, Mr. Hagemann suggests the following specific mitigation measures that would avoid, minimize, and mitigate the Project's construction emissions of NOx and ROGs, which were not considered in the DEIR:

- Implement Commute Trip Reduction (CTR) Program:
- Provide a Ride-Sharing Program
- Implement a Subsidized or Discounted Transit Program
- Implement a Car-Sharing Program
- Provide Employer-Sponsored Vanpool/Shuttle
- Require Implementation of Diesel Control Measures
- Repower or Replace Older Construction Equipment Engines
- Use Alternative Fuels for Construction Equipment
- Install Retrofit Devices on Existing Construction Equipment
- Use Electric and Hybrid Construction Equipment
- Institute a Heavy-Duty Off-Road Vehicle Plan
- Implement a Construction Vehicle Inventory Tracking System

These measures are more stringent and prescriptive than those measures identified in the DEIR. A complete description of these measures can be found in Mr. Hagemann's Comment on pages 13-19.

C. THE DEIR IMPROPERLY RELIES ON A BORROWED THRESHOLD TO DETERMINE THAT THE PROJECT'S CUMULATIVE EMISSIONS OF OZONE PRECURSORS WILL BE INSIGNIFICANT.

The DEIR's conclusion that the Project will not result in significant cumulative air quality impacts is based on the DEIR's reliance on the wrong threshold of significance. When compared to the proper threshold of significance, the Project has a significant cumulative impact on air quality. The DEIR must be revised to compare the Project's cumulative impact to the proper significance threshold.

The Courts have held that agencies may not rely on standards created by other agencies to declare impacts insignificant for CEQA purposes. For example, in *Oro Fino Gold v. El Dorado*, 225 Cal.App.3d 872, 882 (1990), the court held that an agency could not rely on the fact that noise impacts of a project would not exceed the significance threshold set by a different agency to declare those impacts insignificant. The court found the impacts to be potentially significant, requiring and EIR, despite the fact that they did not exceed the other agency's noise thresholds. *See also, Eller Media v. Comm. Redev. Agency* (2003) 108 Cal. App. 4th 25, 38 (lead

agency could not rely on project's conformity with general plan and local ordinances to determine that project would not have significant impacts within meaning of CEQA).

For example, *Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comm'rs*, 91 Cal. App. 4th 1344, 1370 (Cal. App. 1st Dist. 2001), involved a proposed expansion of the Oakland Airport. The Petitioners provided expert analysis calculating toxic health risks using the BAAQMD CEQA thresholds and methodology. The Port Commission contended that BAAQMD CEQA thresholds for toxic chemicals did not apply to the Port. The First District Court of appeal rejected this argument. The Court of appeal held that BAAQMD is the expert agency with jurisdiction over air toxics in the Bay Area. CEQA requires lead agencies to "consult 'with all responsible agencies and with any other public agency which has jurisdiction by law over natural resources affected by the project . . . .'" (§ 21080.3, subd. (a).) Pursuant to this provision, the Port Commission was required to apply the BAAQMD thresholds and toxic risk calculation methodology. At the very least, the lead agency must acknowledge the inconsistency with the BAAQMD thresholds in the EIR. Port commission abused its discretion by failing to acknowledge that the project would have significant air toxic impacts exceeding BAAQMD thresholds, and by failing to consider mitigation measures to reduce these impacts.

The DEIR improperly ignores the applicable Placer County Air Pollution Control District's significance threshold[4] for cumulative ozone precursor emissions of 10 lbs/day, and instead adopts the threshold used by the Sacramento Metropolitan Air Quality Management District (SMAQMD) of 82 lbs/day. The DEIR's dismissal of the PCAPCD's standard violates CEQA, and misstates the Air District's guidance on the topic.

The DEIR asserts that:

> PCAPCD's recommendation to use 10 lb/day is based on its New Source Review rule (Rule 502) that applies to stationary sources and requires Best Available Control Technology (BACT) to be implemented on any stationary source that emits more than 10 lb/day of ROD and NOx [citation]. On this basis, PCAPCD recommends that any project that emits more than 10 lb/day should implement mitigation measures to reduce cumulative impacts [cite]."

DEIR 18-30. The DEIR then goes on to assert that:

> PCAPCD provides no guidance about what level of mitigation is sufficient for a land use development project that exceeds 10 lb/day or whether a project that reduces its emission to less than 82 lbs/day would result in a cumulatively considerable contribution to the nonattainment ozone status of the region. PCAPCD leaves decisions on this matter to the discretion of the lead agency.

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[4] The threshold can be found in the Placer County Air Pollution Control District's CEQA Handbook, *available at* http://www.placer.ca.gov/departments/air/landuseceqa.

Id. A brief look at the PCAPCD Handbook, however, makes clear that the DEIR's assertion is false.

The PCAPCD Handbook explains that:

> It is very important to emphasize that the primary reason the District applies a "10 lbs per day" standard as the threshold for a project's cumulative impacts resulting from its ROG and NOx emissions is because Placer County lies within the federal ozone nonattainment area.

PCAPCD Handbook, p. 2-4. The Handbook does note that the threshold was established "based on the NSR requirement, which requires any stationary source that emits more than 10 lbs per day of ROG and NOX must employ BACT." *Id*. But the next sentence makes clear that the threshold is not limited to industrial point sources. It states:

> Therefore the District recommends ***any project*** which emits more than 10 lbs per day should implement mitigation measures to reduce cumulative impacts. Mitigation measures can include both on-site and off-site mitigation measures.

PCAPCD Handbook, p. 2-4 (emphasis added). In addition, PCAPCD Handbook table 2-4 applies this standard to two types of land use, single family residential and retail strip mall, neither of which are industrial point sources. Indeed, the Project includes strip mall type development.

The Placer County Air Pollution Control District sets a cumulative threshold of 10 lbs/day for operational emissions of ROG and NOx. PCAPCD Handbook, pp. 2-3, 2-4. PCAPCD then recommends that any project emitting more than 10 lbs/day implement mitigation measures to reduce cumulative impacts. *Id*. A revised draft EIR is required to apply the proper PCAPCD CEQA significance threshold, to recognize significant impact under this threshold, and to propose feasible mitigation measures to reduce those impacts.

D. GREENHOUSE GAS IMPACTS HAVE NOT BEEN ADEQUATELY ANALYZED OR MITIGATED.

1. Greenhouse Gas Emissions Exceed the Significance Threshold when Properly Analyzed.

Greenhouse gas from project construction have not been adequately analyzed or mitigated. The DEIR's model for determining construction-related greenhouse gas emissions is flawed for the same reasons the DEIR's model for determining other air quality emissions from Project construction is flawed, as discussed above. Mr. Hagemann used the same alternative method described above in section C to more accurately determine greenhouse gas emission from Project construction. Hagemann Comment, p. 20.

The results of Mr. Hagemann's model demonstrate that when accurately estimating emissions from construction of 20 percent of the total Project, greenhouse emissions are much higher than those disclosed in the DEIR. Hagemann Comment, pp. 20-21. The more accurate model demonstrates that maximum annual greenhouse gas emissions in a single year would be 2,135 $MTCO_2e$/year. Hagemann Comment, p. 21. This is more than twice the 940 $MTCO_2e$/year greenhouse gas emissions estimated under the DEIR's flawed model. In addition, under the more accurate model, the Project's construction emissions will be nearly twice the PCAPCD Tier I threshold of significance of 1,100 $MTCO_2e$/year, and would therefore create a significant impact. *Id*.

Construction of 20 Percent of Project Summary of Maximum Annual GHG Emissions (MTCO2e/yr)	
Hagemann Model	**2,135**
DEIR Emission Estimates	940
PCAPCD Tier I Threshold	1,100
Exceed under Hagemann model?	***Yes***
Exceed under DEIR model?	***No***

A revised DEIR should be prepared that uses Mr. Hagemann's properly constructed model, and discloses and mitigates the Project's significant construction-related greenhouse gas impacts.

2. The DEIR Improperly Omits Discussion or Analysis of the greenhouse gas reduction targets specified in Executive Order B-30-15.

The DEIR acknowledges that Assembly Bill 32, passed in 2006, limits GHG emission in California to 1990 levels by 2020. DEIR 16-4. However, the EIR omits reference to Executive Order B-30-15, which was signed by Governor Brown in April 2015, before the DEIR was published. DEIR section 16. Executive Order B-30-15 establishes a greenhouse gas emissions reduction target of reaching levels 40 percent below 1990 levels by 2030. Hagemann Comment, p. 21. Since construction of the Project is anticipated to take place over 20 to 25 years, with the first fully operational year anticipated to be 2037, the 2030 goals are applicable to any evaluation of the Project's impacts. Hagemann Comment, p. 22.

In 1990, California's statewide greenhouse gas emission were estimated at 431 million $MTCO_2e$ ($MMTCO_2e$). Hagemann Comment, p. 22. Based on Executive Order B-30-15, by 2030, California will be required to reduce statewide GHG emission by 172 $MMTCO_2e$, creating a statewide limit of 259 $MMTCO_2e$. Hagemann Comment, p. 22. The current "business-as-usual" estimate for California's 2020 GHG emissions is 509 $MMTCO_2e$. *Id*. Accordingly, in order to reach the reductions required by Executive Order B-30-15 of 259 $MMTCO_2e$, California would need to reduce its emissions by 49 percent below the "business-as-usual" level. *Id*.

A revised DEIR should be prepared that demonstrates the Project's compliance with the more aggressive GHG reduction targets specified in Executive Order B-30-15. This 49 percent reduction target should be used as a threshold of significance against which to measure Project impacts. Specifically, the DEIR should demonstrate a reduction of 49 percent below "business-as-usual" levels. Hagemann Comment, p. 22. Alternatively, since this reduction percentage is applicable to statewide emissions, an analysis should be conducted to translate this statewide target into a project-specific threshold against which the Project's GHG emissions can be compared. *Id*. The DEIR should quantify any reductions expected to be achieved through mitigation measures, and demonstrate how the measures would reduce emissions below the new 2030 significance threshold.

E. THE DEIR'S CONCLUSION THAT GROWTH INDUCING IMPACTS ARE NOT SIGNIFICANT IS NOT SUPPORTED BY SUBSTANTIAL EVIDENCE

CEQA requires an EIR to include an analysis of the growth-inducing impacts of a proposed project, and the environmental consequences of that growth. CEQA Guidelines § 15126.2(d). These growth-inducing impacts must be discussed and analyzed even if those impacts result only indirectly from the project. *Napa Citizens for Honest Gov't v. Napa County Bd. Of Supervisors* (2001) 91 Cal.App.4th 342, 368. A Project will have a significant impact if it will "induce substantial growth in an area, either directly or indirectly." DEIR 5-8.

In *Napa Citizens for Honest Government*, 91 Cal.App.4th 342, the Court of Appeal set out the general framework for considering population-related growth impacts. An EIR:

> Should, at a minimum, identify the number and type of housing units that persons working within the [p]roject area can be anticipated to require, and identify the probable location of those units. The [EIR] also should consider whether the identified communities have sufficient housing units and sufficient services to accommodate the anticipated increase in population. If it is concluded that the communities lack sufficient units and/or services, the [EIR] should identify that fact and explain that action will need to be taken. . . .

Id. at 370.

Once an EIR determines what additional housing or public services will be required as a result of a proposed project, it must then analyze the environmental consequences of those additional housing units and public services. *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 438-47. For example, in *Vineyard Area Citizens for Responsible Growth*, the California Supreme Court held that under CEQA, when a new development requires an increased water supply, the environmental impacts of providing that water supply must be analyzed. *Id.* In addition, the EIR must also take account of the growth that a project will indirectly induce through, for example, stimulation of the local economy, or by providing new infrastructure that supports new construction. Watt Comment, p. 5.

The DEIR's analysis of growth-inducing impacts is incomplete, and the DEIR's conclusion that the Project will not induce substantial growth in the area is unsupported by substantial evidence. A revised DEIR must include a complete analysis of the Project's growth-inducement, as described by Urban Planning expert Terry Watt.

1. The DEIR's analysis of the Project's growth-inducement is incomplete and unsupported by substantial evidence.

According to Ms. Watt, a complete analysis of growth-inducing impacts requires two steps. Watt Comment, pp. 4-5. First, the analysis must reach an accurate estimate of the population growth directly and indirectly caused by the project, including an estimate of the number of employees required by the project and whether those employees would be new to the region. *Id*. Second, the analysis must then look at the environmental impacts associated with serving that estimated new population, including housing, public services, and facilities (e.g. emergency services, schools, etc.). *Id*. According to Ms. Watt, the DEIR fails with respect to both of these steps. Watt Comment, p. 5.

i. The DEIR significantly underestimates growth inducement because it improperly limits its analysis to on-site impacts.

The flaws in the DEIR's growth-inducement analysis begin at the first step, which is to calculate the number of jobs directly and indirectly created by the Project. Watt Comment, p. 5. The DEIR does provide an estimate of jobs created by the Project, but it improperly limits that estimate to on-site jobs created directly by the Project on site. *Id.* This significant omission results in a significant underestimate of the total employment and job growth that would be created by the project. *Id*. at p. 6.

The DEIR's analysis of job and population growth is further undermined by the DEIR's unsupported conclusions that the impacts of on-site employees and visitors would remain onsite. For example, the DEIR makes the assumption that the jobs directly created by the Project would generate "transient population rather than accommodate new full-time residents in the Valley because of the manner in which housing would be provided (fractional ownership, seasonal employee housing, and daily basis)." DEIR 5-10. The DEIR makes another assertion "that the economic activity generated by visitors would be largely contained within the commercial components of the project" and "the project is designed such that the economic activity generated by visitors would be largely contained within the commercial components of the project." DEIR 5-12. Based on these unsubstantiated conclusions, the DEIR fails to analyze or discuss any of the ***off-site*** Project-induced growth. These bare assertions about the Project's potential to induce growth do not constitute the type of reasoned analysis demanded by CEQA. CEQA Guidelines, § 15384(a).

Indeed, an examination of the data and discussion provided by the DEIR's Economic Impact study (GCG) supports Ms. Watt's conclusion, and conflicts with the DEIR's conclusion that growth will largely remain onsite. Given the broad range in type and scale of Project-

induced job creation to support the Project, and construction and operation of related physical space for those jobs and services, Ms. Watt concludes that the Project will likely create significant offsite Project-induced growth. Watt Comment, p. 6. As Ms. Watt points out:

> The DEIR's Economic Impact and Urban Decay Study and DEIR acknowledge that the proposed project would significantly expand the area's economic base and specifically would add new net supportable sales totaling an estimated $116 million. That significant expansion would inevitably lead to more economic activity than is "contained" or accommodated by the proposed project on-site. Project employees and visitors would have more money to spend, the project itself would require secondary support services and those activities would stimulate additional development in the area. All of this secondary activity and growth would in turn cause environmental effects. These induced growth impacts are overlooked entirely.

Watt Comment, pp. 5-6.

ii. The DEIR fails to analyze indirect impacts.

While the DEIR acknowledges that "the population increase caused by, or attracted to, a new project may result in additional demands for housing, goods and services," it fails to actually analyze these additional demands. Watt Comment, p. 3 (citing DEIR 5-12). This omission is particularly troubling because, as Ms. Watt points out, all of the data necessary to conduct this analysis is contained in the GCG Economic Impact and Urban Decay Analysis, but the study and the DEIR completely overlook the question of how much secondary growth will be induced by the Project's economic impacts in the area. Watt Comment, p. 6.

"The flaws in the DEIR's projections of employment and population growth have a ripple effect that undermines the analysis of housing-related and public service and facility-related impacts of that growth." *Id*. at p. 7. Because the analysis stops at the borders of the Project site, the DEIR contains no analysis of growth in demand for housing and goods and services, and the environmental impacts resulting from that growth. *Id.* For example, the DEIR contains no analysis of the environmental effects associated with constructing additional commercial square feet, additional workforce housing and the public services facilities to support those uses. It also fails to analyze the traffic trips, air quality impacts, and other environmental consequences of that additional growth.

Accordingly, the DEIR is incomplete and fails as informational document. The DEIR simply ignores environmental impacts resulting from Project-induced growth. A revised and recirculated environmental document must address the full breath of growth-inducing impacts. This omission of such an analysis renders the DEIR inadequate.

2. Substantial Evidence demonstrates that Project-induced growth is significant.

While on the one hand the EIR ignores all off-site growth inducing impacts, the EIR on the other hand goes to great lengths to persuade the local community that the Project will benefit the local economy. The DEIR's Economic Impact and Urban Decay Study estimates an additional $116 million in "net supportable sales" in the area's markets, shops, restaurants and bars. Watt Comment, p. 5. Yet none of this growth in demand for goods and services is accounted for the in DEIR.

Ms. Watt conducted an analysis using the IMPLAN model and project information from the GCG Study. *Id*. at p. 6. Ms. Watt's analysis concluded that meeting the additional demand for goods and services generated by the Project (beyond the Project site) will require an additional 1,050 to 1,300 workers. *Id*. Most of these jobs would be low-paying service jobs. *Id.* Ms. Watt estimates that, based on the Project's sales projections, approximately 360,000 square feet of additional new structures (not including public service facilities), will be needed to accommodate this increased demand for goods and services. *Id*.

This constitutes a significant environmental impact that must be disclosed and fully analyzed in a revised DEIR.

F. THE DEIR FAILS TO SUMMARIZE AND INCLUDE STUDIES RELIED ON IN THE DEIR.

As a general matter, an EIR must be a single document that informs the public of the impacts of a project and feasible mitigation measures and alternatives to reduce those impacts. *Russian Hill Improvement Assoc. v. Bd. of Permit Appeals* (1974) 44 Cal.App.3d 158. The EIR should constitute a single document that is "meaningful and useful to decision-makers and to the public." PRC § 21003(b). The EIR reader should not be required to "painstakingly ferret out the information" from multiple reports. *Planning & Conservation League v. Dept. of Water Resources* (2000) 83 Cal.App.4th 892, 911. The public should not be required to sift through multiple documents to detect a project's environmental impacts. *San Joaquin Raptor II,* 149 Cal.App.4th at 659.

The DEIR sites a number of project-specific studies not summarized or included in the DEIR or its appendices. The References section of the DEIR is 25 pages long, and many of the references are to project-specific studies that are needed for the public and decision makers to conduct a meaningful analysis of the Project's impacts. For example, the following documents are referenced, but are not summarized or provided in the Appendix.

- Balance Hydrologics, Inc. 2014. *Design Basis Report: Squaw Creek Restoration, Squaw Valley Specific Plan, Placer County, California*. Prepared for Squaw Valley Ski Holdings, LLC.

- Capitol Utility Specialists. 2014 (March). *Squaw Valley Technical Dry Utilities Study*. El Dorado Hills, CA.
- Citygate. 2014. *Squaw Valley – Assessment of Project Impacts and Appropriate Fire Service Mitigations for the Proposed Village at Squaw Project*. Prepared for the Squaw Valley Public Service District.
- Fehr & Peers. 2014. *Estimated Vehicle Miles Travelled for the Squaw Village Specific Plan—Calculation Spreadsheets*.
- GANDA. 2014 (September). Technical Memorandum: Potential Impacts of Increased Groundwater Pumping on Squaw Creek Fisheries and Aquatic Resources: Village at Squaw Valley
- Garcia and Associates. 2014 (September). Potential Impacts of Increased Groundwater Pumping on Squaw Creek Fisheries and Aquatic Resources: Village at Squaw Valley Specific Plan Project. Prepared for Squaw Valley Real Estate, LLC, Olympic Valley, CA.
- Goodwin Consulting Group. 2015 (April 15). *Village at Squaw Valley Specific Plan, Economic Impact and Urban Decay Analysis*. Sacramento, CA
- Heywood, Larry. 2014 (March 7). *Avalanche Hazard Study: Village at Squaw Valley Specific Plan Squaw Valley, California*. Prepared for Squaw Valley Ski Corporation
- Holdrege & Kull. 2011 (November 29). *Preliminary Geotechnical Engineering and Geologic Review for Squaw Valley Development Project Olympic Valley/Placer County, California*. Prepared for Squaw Valley Development Corporation.
- Kennedy/Jenks Consultants. 2010 (December 7). *Phase I Environmental Assessment Squaw Valley Olympic Village Specific Plan, Placer County, California*. Prepared for Squaw Valley Development Corporation. Irvine, CA.
- Kennedy/Jenks Consultants. 2013 (May 22). Draft Technical Memorandum: Summary of Kennedy/Jenks' review of Placer County Environmental Health records pertaining to former UST/SLIC sites located at the Squaw Valley Olympic Village at Squaw Valley Ski Resort. To Squaw Valley Development Company.
- MacKay & Somps. 2014. (June 10). Technical Memorandum No. 1: The Village at Squaw Valley Specific Plan: Updated Water Study.
- MacKay & Somps. 2012 (December). *Draft Master Drainage Study, Village at Squaw Valley Specific Plan.* Consulting report prepared for the Village at Squaw Valley, Squaw Valley USA and submitted to Placer County, 55 p. incl figures and tables, + appendices.
- MacKay & Somps. 2015 (January 27). *Dry Utility Master Plan - Village as Squaw Valley Specific Plan*.
- Salix Consulting. 2014 (June). *Wetland Delineation for the 107-Acre Squaw Valley Village Study Area*. Prepared for Squaw Valley Ski Corporation
- Todd Groundwater. 2014 (October 17). Memorandum: Model Simulated Squaw Creek Flow and Groundwater Elevation Data Transmittal, Village at Squaw Valley Specific Plan. (From Chad Taylor and Maureen Reilly to Chevis Hosea).
- 2014a (June 10). Technical Memorandum No. 1: The Village at Squaw Valley Specific Plan: Updated Water Study.
- 2014b (June 12 and July 23). Technical Memorandum No. 2: The Village at Squaw Valley Specific Plan: Updated Sewer Study (two versions).

- 2014c (July 15). *Infrastructure Phasing Plan for the Village at Squaw Valley Specific Plan*. Prepared for the County of Placer and Squaw Valley Real Estate, LLC.
- 2014d (October 16). *Sewer Master Plan: The Village at Squaw Valley Specific Plan*. Prepared for Squaw Valley USA.
- 2014e (October 16). Technical Memorandum No. 3: The Village at Squaw Valley Specific Plan: Updated Drainage Study.
- 2014f (October 16). Technical Memorandum No. 6: The Village at Squaw Valley Specific Plan: Snow Storage Plan.
- 2015 (April 22). *Fault Evaluation Report.* Prepared for Squaw Valley Real Estate, LLC, Olympic Valley, CA.

These documents should be included in the Appendix in a revised DEIR.

IV. THE COUNTY SHOULD PREPARE AND RECIRCULATE A SUPPLEMENTAL DEIR

Recirculation of an EIR prior to certification is required "when the new information added to an EIR discloses: (1) a new substantial environmental impact resulting from the project or from a new mitigation measure proposed to be implemented; (2) a substantial increase in the severity of an environmental impact unless mitigation measures are adopted that reduce the impact to a level of insignificance; (3) a feasible project alternative or mitigation measure that clearly would lessen the environmental impacts of the project, but which the project's proponents decline to adopt; or (4) that the draft EIR was so fundamentally and basically inadequate and conclusory in nature that public comment on the draft was in effect meaningless." CEQA Guidelines §15162; *Laurel Heights Improvement Assn. v. Regents of University of Cal.* (1993) 6 Cal. 4th 1112, 1130 (citing *Mountain Lion Coalition v. Fish & Game Comm'n* (1989) 214 Cal.App.3d 1043).

Recirculation is required where "significant new information" has been added to an EIR. *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 447. New information is "significant" where it results in a change to the EIR's analysis or mitigation of a substantial adverse environmental effect to the EIR. *Id*.

Here, the DEIR must be revised to address the many deficiencies identified above.

V. CONCLUSION

For the foregoing reasons, TRUSST believes the Village at Squaw Valley Specific Plan DEIR is wholly inadequate. TRUST urges the Placer County Planning Services Department to make the above changes, and recirculate a revised DEIR to the public for review. Thank you for your attention to these comments.

Very truly yours,

Rebecca L. Davis

Enclosures

EXHIBIT 1

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

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July 16, 2015

Rebecca Davis
Lozeau | Drury LLP
410 12th Street, Suite 250
Oakland, CA 94607

Subject: Comments on the Village at Squaw Valley Draft Specific Plan

Dear Ms. Davis:

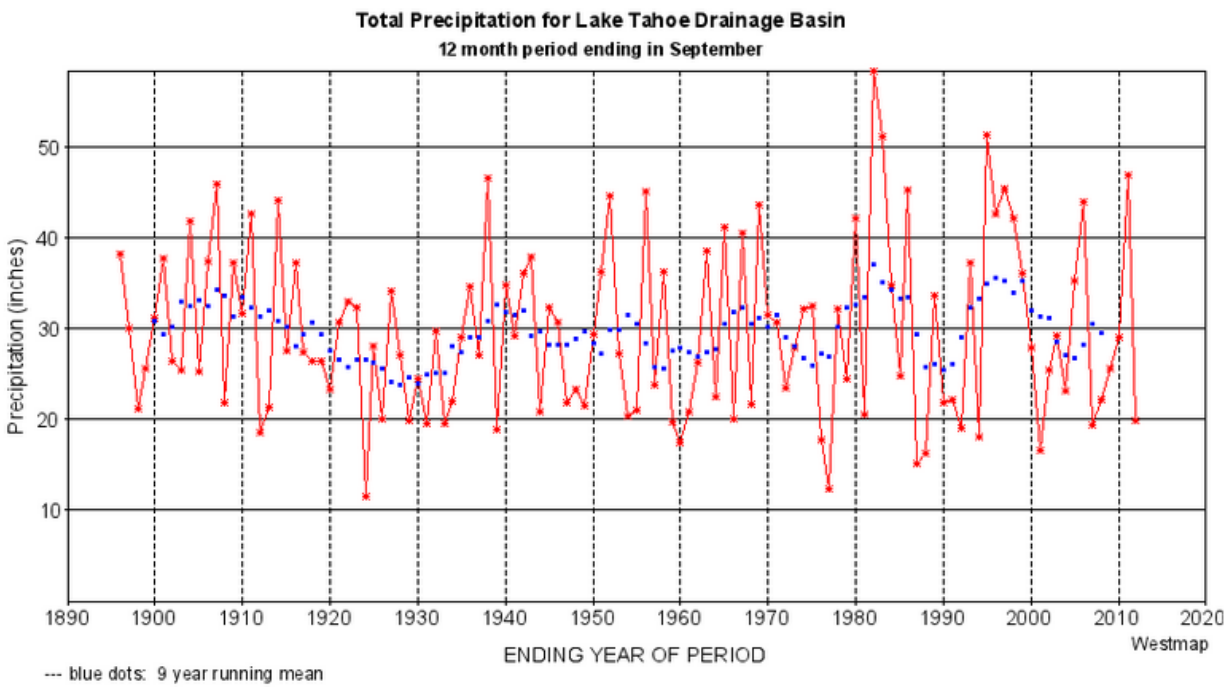
We have reviewed the May 2015 Draft Environmental Impact Report (DEIR) and its appendices for the Village at Squaw Valley Draft Specific Plan ("Project"). The Project site is located within the 4,700-acre Squaw Valley (also known as Olympic Valley) in northeastern Placer County and within the Sierra Nevada. The Project would allow for development of resort hotel, residential, commercial, retail, and recreational uses, including lodging, skier services, retail shopping, restaurants and bars, entertainment, and public and private recreational facilities. The Project was most recently updated in April 2015 to include a smaller Village area of approximately 85 acres, and to include a disconnected East Parcel of approximately 8.8 acres, also in Squaw Valley, which is proposed for employee housing, parking, shipping and receiving, and a retail market.

Hydrology and Water Quality and Public Services and Utilities

Drought Conditions Inadequately Modeled for Impacts on Water Supply

Groundwater for the Project (and foreseeable future projects in Olympic Valley) will come from solely from wells completed in the Olympic Valley Groundwater Basin (p. 18-38). New water demands (Project and other cumulative development) are estimated to increase by 363 acre feet per year over the next 25 years (p. 18-42). The DEIR fails to model impacts from these additional withdrawals on the aquifer that will supply the Project using data from the current drought conditions. A revised DEIR needs to include a groundwater model that would incorporate a scenario that incorporates current drought conditions and an even more severe drought conditions that may result from a changing climate. The revised DEIR needs to predict drawdowns in the aquifer and impacts to aquatic habitat from reduced base flow to Squaw Creek and provide mitigation, including advanced water conservation measures not considered in the DEIR.

To evaluate the impact on the aquifer in the DEIR, an existing groundwater model was modified to predict future drawdowns in the wells that will be used to supply the water for the Project. One critical flaw in this effort is the failure to include recent climatologic and hydrologic data. The groundwater model for the Project only utilized data from May 1992 through December 2011 (Water Supply Assessment, p. 6-2). This time period included what the DEIR characterized as a "single dry year (2007) and multiple year dry periods (1999-2001)" (p. 14-35). What the DEIR fails to say is that the time period for the model included very wet years, the including 1996 water year (the second wettest year in Lake Tahoe in over a 100 years), a wet year in 2011, a (the fifth wettest on record) and a multiple wet-year period from 1996 to 1999, as shown below.



From http://www.tahoeclim.dri.edu/guide.html

The rainfall data from Lake Tahoe show the many wet years were included in the modeled time period (1992 to 2011) and therefore, the implication that the model incorporated dry period conditions or drought is misleading.

As the DEIR admits, the ongoing California drought "may produce a more severe multiple year drought than any within the available historical dataset or model study period" (p. 14-35). The DEIR goes on to say (p. 14-7):

> It is possible that during periods of extreme drought in the future (e.g., future single and multiple dry years) there might not be available runoff to fill up the Basin. These events are expected to be limited and the Basin would easily recover to maximum capacity after a year of normal precipitation, because normal runoff substantially exceeds Basin capacity.

This vague and unsubstantiated statement is the extent of the DEIR's consideration of drought conditions: no effort was made to model the current drought and future even more severe droughts that are predicted to result from a changing climate. To fail to incorporate data into the groundwater model from the ongoing drought and severe "megadroughts" (which last two decades or longer) is a gross omission. Failure to model droughts casts the reliability of the model as a tool for decision-making about a sustainable Project water supply into serious doubt. In fact, a study entitled "An Examination of the Vulnerability of Groundwater to Climate Change in Olympic Valley" concluded the effects of warming climate on groundwater supplies would be "immediate and drastic."[1] The study predicts less groundwater recharge as a result of increased surface flow and less total precipitation.

A revised DEIR should be prepared to include a groundwater model that predicts water level impacts through the incorporation of climatologic and hydrological data from the current four-year drought. A worst-case scenario groundwater model should also be run to evaluate a scenario that would contemplate "megadrought[2]" conditions which last two decades or longer. The groundwater model should also consider the impact of global warming which has been linked to the current California drought by Stanford researchers.[3] Failure to adequately consider these factors – the drought and global warming – and the impact on the Project would be an inexcusable denial of the challenging times we currently face and the even more challenging water supply conditions that lie ahead.

Data that should be incorporated into a revised model include:

- The reduction in groundwater recharge and in streamflow from snowpack which in the Sierra which, according to the Natural Resources Conservation Service (and as shown below), is the "lowest in a century[4]."

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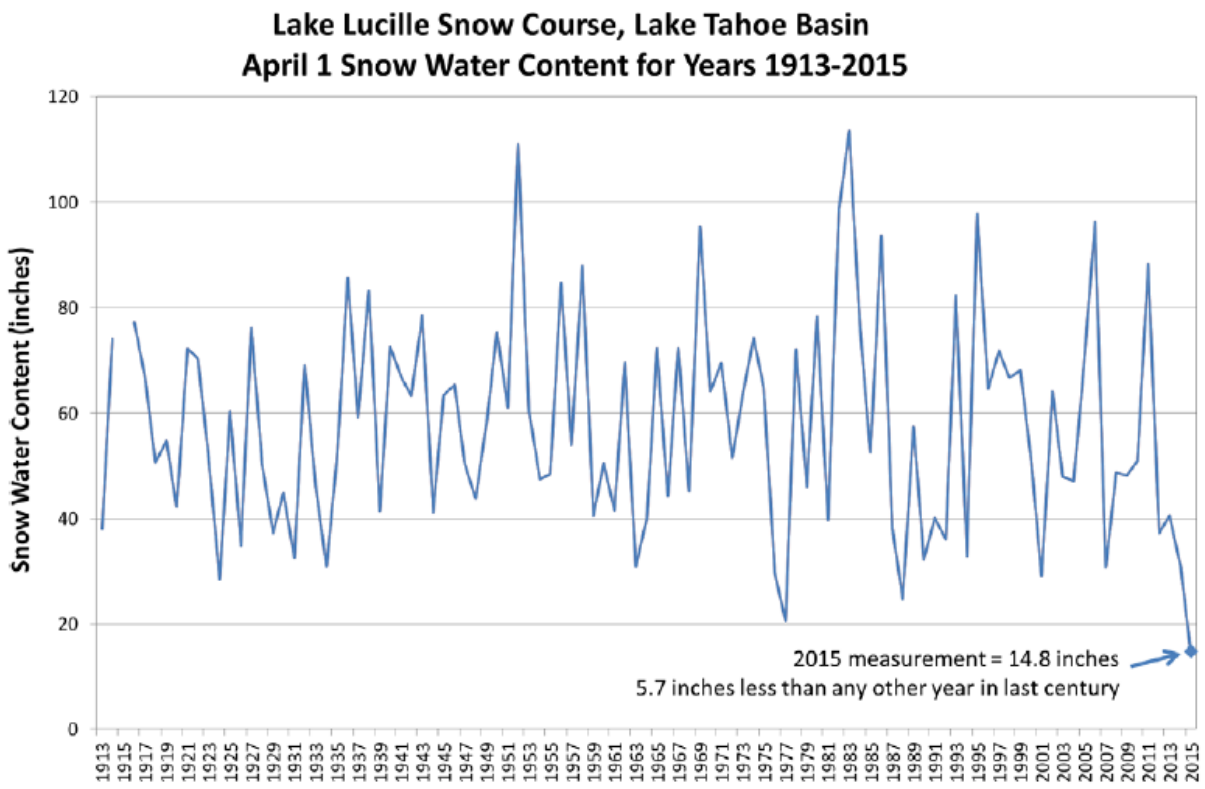
[1] http://tahoescience.org/wp-content/uploads/2012/06/Moran-Jean-presentation.pdf
[2] http://www.earth.columbia.edu/articles/view/3232
[3] http://www.pnas.org/content/112/13/3931.full.pdf
[4] http://www.usatoday.com/story/weather/2015/04/01/sierra-snowpack-drought-california-lake-tahoe/70760264/



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- Precipitation records post-2011 which correlate to the period of the current drought;
- Recent (post-2011) groundwater data from monitoring wells and production wells completed in both alluvium and fractured bedrock in the Olympic Valley Groundwater Basin; and
- Temperature records which show warming in the Tahoe area (as experienced during the current drought period) and the effect on snowmelt.

The revised DEIR should evaluate potential accelerated declines in groundwater levels that would result from current drought and megadrought conditions coupled with increased demands represented by the Project and cumulative demands from other foreseeable projects in the basin. Impacts on the lowest groundwater elevations, which occur during the fall, and which are the most critical for water supply in the Olympic Valley (WSA, p. ES-4), should be a focus of this model to ensure a reliable future supply of water.

The mitigation identified in the DEIR is inadequate to handle a prolonged drought scenario. Mitigation Measure 13-4 purports to ensure that the Project's well field configuration and operation to provide an adequate water supply even in dry and multiple dry years. However, a multiple dry year scenario, like the drought we are currently experiencing, was not even modeled and a megadrought scenario was not even contemplated in the DEIR.

Mitigation, in a revised DEIR, must include measures that would allow for the Project, and all foreseeable projects that would tap Olympic Valley groundwater, to be supplied by a sustainable source of water even in times of severe drought. It is not good enough for the DEIR to state "there might not be available runoff to fill up the Basin" and "These events are expected to be limited and the Basin would easily recover to maximum capacity after a year of normal precipitation" (p. 14-7). Instead, a revised DEIR needs to include mitigation measures to actively ensure Project water demands are met through increased conservation, increased stormwater recharge, use of recycled water, use of graywater and rainwater capture. Instead of providing mitigation to require the implementation of these measures, the DEIR references the Specific Plan and measures being implemented by the Squaw Valley Public Services District as sufficient to meet conservation goals (p. 14-34). The DEIR is also out of date when it mentions Governor Brown's April 2014 Executive Order which mandated a 20 percent reduction in water use. In May 2015, the State Water Resources Control Board issued an emergency regulation requiring a 25 percent reduction.[5] A new DEIR needs to recognize this new mandate and show, though mitigation, how it can be met by the Project. Measures called for in the emergency regulation include: lawn replacement programs; restrictions on outdoor irrigation for residential and commercial properties; halting of irrigation of median strips; consumer rebate program to replace inefficient appliances. And use of conservation rates.

Mitigation measures should be included in a new DEIR that would identify specific steps that would allow for conservation and recharge to meet Project and cumulative demands even during prolonged droughts. Instead of broad and unenforceable policies that do consider some water saving measures (p. 13-44), specific mitigation measures to include in a revised DEIR include:

- Advanced conservation measures (only "water-saving" toilets, shower heads, aerators are mentioned in the DEIR, p. 14-34), which include use of waterless toilets, low water use landscaping,
- Use of recycled water. Currently, sewage is shipped to the Tahoe-Truckee Sanitation Agency and no recycled water (purple pipe) facilities exist in the Project area. A revised DEIR should examine the possibility of constructing a facility in the Project area that would provide treatment of water such that it would be sufficient for use in snowmaking (as is being practiced at other US ski resorts[6]) and irrigation.
- Design features to allow for graywater reuse and rainwater capture at particular Project elements (i.e. resort hotel, retail shopping).
- Increased stormwater recharge through detention and infiltration. Improvements to consider would include use of infiltration chambers[7] to promote recharge of groundwater from stormwater, construction of detention ponds, use of pervious materials in parking lots, roadways, and other hardscapes, use of vegetated swales for routing water, and minimizing impervious areas.

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[5] http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/oal_approved_regs2015.pdf

[6] See, for example, http://www.mtbuller.com.au/Winter/resort-info/environment/water-recycling-snowmaking

[7] http://www.cultec.com/index.html#&panel1-1

- Replacing lawns and other water-consumptive vegetation in the Project area.

Water Supply is Unsecured

No water supply agreement has been made for the Project and the availability of sufficient water supplies has not been verified by a utility. The DEIR only provides for mitigation to obtain, at a later date, what is called a "will-serve agreement" (Mitigation Measure 14-1c) and to verify, following EIR certification, the availability of water supplies Mitigation Measure 14-1b). Because of the need to obtain future agreements and verification, mitigation is deferred and the public is denied the opportunity to evaluate if Mitigation Measure 14-1b and 14-1c are adequate.

Will-serve agreements are routinely included in DEIRs for other project undergoing CEQA review.[8] The omission of a will-serve agreement is a significant shortcoming in the DEIR and casts doubt on the ability of the Squaw Valley Public Services District to provide water for the Project. Likewise, the lack of verification of an available water supply is a significant shortcoming, especially in light of the groundwater model which was prepared without adequate consideration of drought conditions.

The DEIR should not be certified until it is recirculated to include a will-serve agreement and verification that water supplies are available.

Air Quality

Maximum Daily Construction Emissions Inadequately Evaluated

Construction of the Project is anticipated to occur over the course of approximately 20 to 25 years. The DEIR anticipates that during the single most active possible construction year no more than 20 percent of the total Project construction effort could occur (DEIR p. 3-33). Therefore, in order to determine the maximum daily emissions that would occur during a single year, the DEIR models emissions assuming that construction of the total Project would occur within one year, and then takes 20 percent of these values to determine the maximum daily emissions.

Although this method may be applicable to other proposed developments, it should not be used to determine the proposed Project's maximum daily emissions. The DEIR condenses the anticipated 20-25 year construction duration into a single year without accounting for the resultant increase in construction equipment. In order to actually quantify this increase, the Applicant would need to provide a site-specific construction schedule for the anticipated 20-25 year duration. According to the DEIR, the sequence and pace for constructing various land uses and facilities would be market driven; therefore, a specific construction schedule has not been developed. During some years there may be several Project elements under construction simultaneously and during other years there may be very little construction activity (p. 3-33). As a result, emissions from the entire Project, assuming construction would occur within a single year, cannot be accurately quantified using this method. Therefore, the emissions modeled in the DEIR should not be utilized to determine Project significance, as they do not

[8] See for example, http://www.cityofpleasantonca.gov/civicax/filebank/blobdload.aspx?BlobID=25399, p. 33

accurately represent the maximum emissions that would occur during a single year. As we demonstrate below, an alternative method should be implemented to more accurately estimate the maximum daily emissions that could occur within a single year, and an updated DEIR should be prepared to include this updated analysis.

The DEIR's Air Quality Assessment (Appendix H) assessment relies on emissions calculated from the *California Emissions Estimator Model* Version CalEEMod.2013.2.2 ("CalEEMod").[9] CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type, and typical equipment associated with project type. These default values can be changed, however, if more site specific information is known. Once all the values are inputted into the model, the project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the project's air pollution emissions, and make known which default values were changed as well as provide a justification for the values selected.[10] When the construction schedule of a project is changed or shortened, the default equipment list provided by CalEEMod does not change accordingly; rather, these adjustments must be done manually. As a result, a general rule for construction equipment is if the schedule is shortened by half, then the number of equipment needs to be doubled.[11]

The Project's CalEEMod output files, which are disclosed in Appendix H of the DEIR, demonstrate that the amount of construction equipment was not adjusted to account for this decrease in overall construction duration (Appendix H, pp. 101-102). Furthermore, although it is anticipated that Project construction would occur over the course of 20 -25 years, a specific construction schedule for each of these 20-25 years is unknown, because the sequence and pace for constructing various land uses and facilities would be market driven (p. 3-33). As a result, even if the DEIR attempted to adjust the construction equipment following this general rule, there would not be a specific construction schedule upon which to use as a basis for this adjustment. Furthermore, the CalEEMod default equipment list, used by the DEIR, is only valid for 35 acre and smaller Projects.[12] In total, approximately 57 acres of the total Project area would undergo construction. Therefore, by relying on CalEEMod's default equipment list, the DEIR's emissions estimates are even less accurate. Due to these reasons, an alternative method should be implemented in order to more accurately estimate the emissions that could occur during a single year.

Updated Analysis Demonstrates Significance of Daily Construction Emissions

The DEIR discloses an alternative way of determining the maximum construction emissions that could occur in a single year. In this alternative scenario, the DEIR anticipates that during the single most active possible construction year, no more than 20 percent of the total Specific Plan construction effort could

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[9] http://www.caleemod.com/

[10] CalEEMod User Guide, pp. 7, 13 *available at:* http://www.caleemod.com/ (A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.).

[11] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf, p. 2 of 3

[12] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf

occur (p. 3-33). For example, 20 percent of the total construction effort could be equivalent to the construction of bedrooms, the Mountain Adventure Camp, and other uses, but cannot represent more than 20 percent of the total construction effort (p. 3-38). We propose to use this method, where 20 percent of the total construction effort would be directly estimated, as it presents a more accurate way of determining the Project's maximum daily emissions. In an effort to determine the maximum daily emissions that could occur within a single year, we conducted our own analysis using this preferred method.

Table 3-1 of the DEIR summarizes the proposed Project components according to land use, and estimates the percentage of the Project area that each land use comprises (see excerpt below) (p. 3-10).

Table 3-1 Proposed Land Uses

Land Use	Area (acres)	Maximum Units	Maximum Bedrooms	Maximum Density (br/acre)	Average Density (br/acre)	Maximum Commercial (sf)[a]	Existing Commercial to be Removed (sf)	Percent of Plan Area
Main Village Area								
Village Commercial – Core (VC-C)	13.66	517	883	125	85	223,369	54,937	14.6%
Village Commercial – Neighborhood (VC-N)	18.47	333	610	71	39	40,364	36,585	19.8%
Village – Parking (V-P)	8.79	-	-	-	-	-	-	9.4%
Village – Heavy Commercial (V-HC)	2.85	-	-	-	-	10,000	-	3.1 %
Developed Area Subtotal	**43.77**	**850**	**1,493**	**-**	**-**	**273,733**	**91,522**	**46.9%**
Village – Forest Recreation (V-FR)	15.40	-	-	-	-	-	-	16.5%
Village – Conservation Preserve (V-CP)	17.78	-	-	-	-	-	-	19.1%
Undeveloped Area Subtotal	**33.18**	**-**	**-**	**-**	**-**	**-**	**-**	**35.6%**
Roads	7.58	-	-	-	-	-	-	8.1%
Total Main Village Area	**84.53**	**-**	**-**	**-**	**-**	**273,733**	**91,522**	**90.5%**
East Parcel				**Max. Employees**				
Entrance Commercial (EC)[b]	7.01	50[b]	150[b]	300[b]	-	20,000[c]	-	7.5%
Village – Conservation Preserve (V-CP)	1.03	-	-	-	-	-	-	1.1%
Roads	0.76	-	-	-	-	-	-	0.8%
Total East Parcel	**8.8**	**50**	**150**	**-**	**-**	**20,000**	**-**	**9.4%**
Total	**93.33**	**900[d]**	**1,643**	**-**	**-**	**297,733[b]**	**91,522**	**100.0%**

Although these estimated values disclose to the public what portion of the total Project area each land use encompasses, they do not necessarily represent 20 percent of the Project's total construction effort. Approximately 33.18-acres of the 93.33-acre site represent undeveloped land uses dedicated to Forest Recreation and Conservation Preservation. Furthermore, the acreages assigned to each of the developed land uses represent a mix of open space, residential, commercial, and recreational land uses. Due to these uncertainties, we instead relied on the construction specifics disclosed in Appendix H of the DEIR. Appendix H provides a detailed summary of the Project's anticipated construction activities according to land use type and lot number, and also discloses which of the Project parcels were not included in the construction emissions model (pp. 4). These values more accurately represent the total construction effort of the proposed Project, as they take into account the areas that will actually undergo construction and the areas that will not. Using these values, we estimated the percentages for each development compared to the total construction area, and then determined which land uses would most accurately represent 20 percent of the Project's total construction effort (see table below).

CalEEMod Land Use Type	Land Use Type	Acreage	Total Residential Square Feet	Total Commercial/Retail Square Feet	Number of Units	Total Floor Area (square feet)	Percent of Total Construction Effort
Residential - Condo/Townhouse High Rise	Core - Condo/Hotel	5.62	362,676	34,040	223	396,716	9.8%
	Condo/Hotel	1.36	139,782	11,742	98	151,524	2.4%
	Condo/Hotel	1.2	145,100	17,741	87	162,841	2.1%
	Condo/Hotel	0.87	36,115	5,500	12	41,615	1.5%
	Condo/Hotel	4.69	252,875	15,483	167	268,358	8.2%
	Condo/Hotel	2.01	117,825	10,418	88	128,243	3.5%
	West Wing - Condo Hotel	-	39,404	1478	22	40,882	0.0%
	Extended Stay Condo/Hotel	2.06	62,438	6,341	47	68,779	3.6%
Condo/Townhouse High Rise Subtotal		***17.81***	***1,156,215***	***102,743***	***744***	***1,258,958***	***31.2%***
Residential - Apartments Mid Rise	Employee Housing	0.21	11,730	-	6	11,730	0.4%
	Employee Housing	0.44	19,341	-	15	19,341	0.8%
Mid Rise Apartments Subtotal		***0.65***	***31,071***	***-***	***21***	***31,071***	***1.1%***
Residential - Condo/Townhouse	Fractional Cabins	3.65	51,000	-	17	51,000	6.4%
	Fractional Cabins Lodge	1.18	-	10,000	-	10,000	2.1%
	Fractional Cabins	4.87	42,000	-	14	42,000	8.5%
Condo/Townhouse Subtotal		***9.70***	***93,000***	***10,000***	***31***	***103,000***	***17.0%***
Retail - User Defined Retail	Mountain Adventure Camp	2.29	-	110,000	-	110,000	4.0%
	Mountain Maintenance	2.85	-	10,000	-	10,000	5.0%
	Squaw Kids/Condo-Hotel	1.11	121,380	30,552	58	151,932	1.9%
	Shipping and Receiving	0.2	-	20,000	-	20,000	0.4%
	Condo/Hotel	0.98	24,276	15,500	17	39,776	1.7%
	Transit Facilities	-		4,000	-	4,000	0.0%
Retail Subtotal		***7.43***	***145,656***	***190,052***	***75***	***335,708***	***13.0%***
Enclosed Parking Structure	Parking Structure	3.22	-	-	-	-	5.6%
Parking Lot	Parking Lot	5.18	-	-	-	-	9.1%

	Parking Lot	5.49	-	-	-	-	9.6%
Parking Subtotal		***13.89***	***-***	***-***	***-***	***-***	***24.3%***
Parking - Other Asphalt Surfaces	Far East Road	1.03	-	-	-	-	1.8%
	OVI Access Road	2.2	-	-	-	-	3.9%
	Squaw Valley Road	3	-	-	-	-	5.3%
	Squaw Valley Road	0.76	-	-	-	-	1.3%
	Village East Road	0.62	-	-	-	-	1.1%
Asphalt Surfaces Subtotal		***7.61***	***-***	***-***	***-***	***-***	***13.3%***
Total Developed Area		***57.09***	***1,425,942***	***302,795***	***871***	***1,728,737***	***100.0%***

Using the values in this table, we were able to determine a portion of the Project area that would represent approximately 20 percent of the Project's total construction effort (see table below).

Land Use Type	Acreage	Total Residential Square Feet	Total Commercial/Retail Square Feet	Number of Units	Total Floor Area (square feet)	Percent of Total Construction Effort
Core - Condo/Hotel	5.62	362,676	34,040	223	396,716	9.8%
Condo/Hotel	1.2	145,100	17,741	87	162,841	2.1%
Condo/Hotel	4.69	252,875	15,483	167	268,358	8.2%
	11.51	***760,651***	***67,264***	***477***	***827,915***	***20.2%***

Construction of approximately 477 Condo/Hotel units and approximately 67,264 square feet of commercial and retail developments represents approximately 20.2 percent of the Project's total construction efforts. Consistent with the DEIR, we used CalEEMod to model the emissions from these proposed developments. We modeled the Condo/Hotels as High Rise Condo/Townhouses, and modeled the various commercial/retail developments as User Defined Retail. The proposed residential and commercial/retail developments are anticipated to be located within the same building, representing a mixed-use scenario. It is recommended that when modeling a mixed-use, multi-story project, the Project acreage should be assigned to the residential portion, and the commercial/retail acreages should be zeroed out, leaving the square footage of that land use.[13] Following this guidance, we assigned the acreages of the residential areas to the Condo/Hotels, and then zeroed out the acreage for the commercial and retail developments, leaving the square footages of each land use within the model. Because the proposed developments encompass 11.51 acres, which is less than the 35 acre cut-off previously discussed, we were able to use the default equipment list provided by CalEEMod.

[13] http://www.airquality.org/ceqa/UserTipsSMAQMD.pdf, p. 1 of 3

It should be noted that this portion of the total construction effort, derived from Appendix H of the DEIR, may represent less than 20 percent. The DEIR states that "the proposed project includes improvements to various utility systems to serve the Specific Plan development, including new groundwater wells, water transmission lines, a water storage tank, sewer line improvements, and electrical and propane distribution infrastructure. These improvements, as part of the proposed project, are part of the action analyzed in this DEIR. The environmental effects of installing and operating these improvements are disclosed as appropriate in each environmental analysis chapter. For example, the impacts to biological resources associated with constructing and operating infrastructure improvements are identified and analyzed in Chapter 6, 'Biological Resources.' Therefore, significance criteria related to the issue of significant environmental effects from construction of new infrastructure are not addressed further in this chapter" (p. 14-30). The DEIR continues to state that "the physical environmental effects of installing the storm drains are evaluated as appropriate through the DEIR" (p. 14-30). The DEIR claims that the environmental effects of these additional construction efforts are evaluated in the various environmental impact categories as appropriate. However, it is unclear if these additional construction efforts are included in the emissions calculations disclosed in Appendix H. As a result, the 20 percent, which we derived from the construction detail in Appendix H, may represent less than 20 percent of the total construction effort. However, because it is unclear if these additional construction efforts were included in the calculations in Appendix H, we conservatively assumed that they were. An updated DEIR should be prepared to disclose whether or not these additional construction activities were included in the emissions calculations in Appendix H of the DEIR.

According to the DEIR, demolition, site preparation, grading, and paving activities would typically occur only during months considered the "construction season" authorized by local and State agencies (approximately May 1 to October 15), and architectural coatings and building construction could occur during all months of the year (p. 3-38). Furthermore, construction activities are anticipated to require up to an estimated 136 construction workers during the most intense year of construction (i.e., when up to 20 percent of the overall construction effort is completed in one season) (p. 3-38). Therefore, we limited the number of workers during the most intense phase of construction duration (building construction) to 136 workers per day. Lastly, the DEIR states that approximately 91,522 square feet of existing building structures will be demolished and removed (p. 3-10). Because it is not clear as to where these existing structures are located on the site specifically, we simply assumed that 20 percent would be demolished.

The results of our model are summarized in the table below:[14]

Construction of 20 Percent of Project ***Maximum Daily Emissions (pounds/day):***				
-	ROG	NOx	PM10	PM2.5
Hagemann Model	105.6	237.30	41.06	25.83
DEIR Emission Estimates	32.2	53.3	8.9	4.5
PCAPCD Threshold	**82**	**82**	**82**	**NA**
Exceed under Hagemann Model?	***Yes***	***Yes***	***No***	**-**
Exceed under DEIR model?	***No***	***No***	***No***	**-**

As previously stated, the DEIR determines the maximum daily emissions that could occur within a single year by modeling a scenario that assumes that construction of the entire Project would occur in a single year (rather than the anticipated 20-25 year construction duration), and then takes 20 percent of these emissions. The emissions from construction of the entire Project, as defined by the DEIR, can be found in Appendix H of the DEIR (see excerpt below) (Appendix H, pp. 103).

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Year	lb/day									
2016	160.9633	266.5969	336.8358	0.4735	31.4043	12.8557	44.2600	10.7118	11.9074	22.6192
Total	**160.9633**	**266.5969**	**336.8358**	**0.4735**	**31.4043**	**12.8557**	**44.2600**	**10.7118**	**11.9074**	**22.6192**

As previously stated, due to the erroneous assumptions made in the DEIR, the construction emissions used to determine Project significance are greatly underestimated. A comparison between the DEIR's construction emission values from the "entire Project" and our modeled values from construction of 20 percent of the Project (see table above), demonstrates that the DEIR's supposed total Project construction emissions more accurately reflect emissions from 20 percent of the Project rather than construction of the Project as a whole. By taking 20 percent of these already underestimated values further reduces the emission estimates to deceitfully low levels (see excerpt below) (DEIR, p. 10-14).

[14] See attachment for full CalEEMod output files

Table 10-4 Summary of Maximum Daily Emissions of Criteria Air Pollutants and Precursors Associated with Project Construction Activities				
Construction Activity	ROG (lb/day)	NO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Demolition	1.0	9.3	0.6	0.5
Site Preparation	1.1	11.0	1.6	1.1
Grading	1.1	11.0	2.1	1.2
Paving	1.4	15.0	0.3	0.2
Building Construction	0.6	4.5	3.6	1.3
Architectural Coatings	9.6	12.7	0.6	0.2
Total Maximum Daily Emissions	**32.2**	**53.3**	**8.9**	**4.5**
PCAPCD Thresholds of Significance	82	82	82	NA

The results of our analysis demonstrate that when accurately estimating the emissions from construction of 20 percent of the total Project, the emissions are much higher. ROG emissions increase from 32.2 pounds per day (lbs/day) to 105.6 lbs/day, NOx emissions increase from 53.3 lbs/day to 237.3 lbs/day, PM10 emissions increase from 8.9 lbs/day to 41.06 lbs/day, and PM2.5 emissions increase from 4.5 lbs/day to 25.83 lbs/day. Furthermore, NOx and ROG emissions from 20 percent of the total construction efforts would exceed the PCAPCD threshold of 82 lbs/day, and would result in a significant impact.[15] An updated DEIR should be prepared to include a revised modeling effort, and mitigation measures should be implemented, where necessary.

Additional mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce Greenhouse Gas (GHG) levels, as well as reduce Criteria Air Pollutants such as NOx and ROG.[16] NOx is a byproduct of fuel combustion; therefore, a reduction in the total vehicle miles traveled (VMT) by workers during construction would result in a reduction in NOx emissions. Furthermore, a reduction in emissions from heavy-duty off-road construction equipment would also effectively reduce NOx and ROG emissions. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce NOx and ROG construction emissions to below PCAPCD thresholds.

Implement Commute Trip Reduction (CTR) Program

The project could implement a voluntary Commute Trip Reduction (CTR) program with employers to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The main difference between a voluntary and a required program is:

- Monitoring and reporting is not required
- No established performance standards (i.e. no trip reduction requirements)

[15] http://www.placer.ca.gov/~/media/apc/documents/Planning/CEQAHandbook/Final/PCAPCDCEQAHandbook2.pdf

[16] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

The CTR program will provide construction workers with assistance in using alternative modes of travel. The CTR program should include all of the following to apply the effectiveness reported by the literature:

- Carpooling encouragement
- Ride-matching assistance
- Preferential carpool parking
- Flexible work schedules for carpools
- Half time transportation coordinator
- Vanpool assistance

Other strategies may also be included as part of a voluntary CTR program, though they are not included in the reductions estimation and thus are not incorporated in the estimated VMT reductions. These include: new employee orientation of trip reduction and alternative mode options, event promotions and publications, flexible work schedule for all construction workers, transit subsidies, parking cash-out or priced parking, shuttles, emergency ride home, and improved on-site amenities.

Provide Ride-Sharing Programs

Increasing the vehicle occupancy by ride sharing will result in fewer cars driving the same trip, and thus a decrease in VMT. The project will include a ride-sharing program as well as a permanent transportation management association membership and funding requirement. Funding may be provided by Community Facilities, District, or County Service Area, or other non-revocable funding mechanism. The project will promote ride-sharing programs through a multi-faceted approach such as:

- Designating a certain percentage of parking spaces for ride sharing vehicles
- Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles
- Providing a web site or message board for coordinating rides

Implement Subsidized or Discounted Transit Program

This project could provide subsidized/discounted daily or monthly public transit passes. The project may also provide free transfers between all shuttles and transit to participants. These passes can be partially or wholly subsidized by the employer or development. Many entities use revenue from parking to offset the cost of such a project.

Implement Car-Sharing Program

This project could implement a car-sharing program to allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees. The car-sharing program could be created through a local partnership or through one of many existing car-share companies. Car-sharing programs may be grouped into three general categories: residential- or citywide-based, employer-based, and transit station-based. Transit station-based programs focus on providing the “last-mile” solution and link transit with commuters’ final destinations.

Provide Employer-Sponsored Vanpool/Shuttle

The Project could implement an employer-sponsored vanpool or shuttle. A vanpool will usually service construction workers' commute to work while a shuttle will service nearby transit stations and surrounding commercial centers. Employer-sponsored vanpool programs entail an employer purchasing or leasing vans for employee use, and often subsidizing the cost of at least program administration, if not more. The driver usually receives personal use of the van, often for a mileage fee. Scheduling is within the employer's purview, and rider charges are normally set on the basis of vehicle and operating cost.

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC), a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology, includes the NEDC Construction Workgroup. The Workgroup - comprised of a diverse set of stakeholders representing government agencies, private sector firms, trade organizations and others involved in construction related activities - works to advance cost-effective strategies to improve air quality and reduce diesel emissions from construction projects in the northeast states and Caribbean territories. The NEDC recommends that contracts for all construction projects require the following diesel control measures: [17]

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet U.S. Environmental Protection Agency (EPA) 2007 onroad emissions standards or (2) emission control technology verified by EPA[18] or the California Air Resources Board (CARB)[19] to reduce PM emissions by a minimum of 85 percent.
- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.
- All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site.
- All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85 percent for engines 50 horse power (hp) and greater and by a minimum of 20 percent for engines less than 50 hp.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[20] approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

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[17] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[18] For EPA's list of verified technology: http://epa.gov/cleandiesel/verification/verif-list.htm
[19] For CARB's list of verified technology: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm
[20] Biodiesel lends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:
http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[21] Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.[22] These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact).
- Replacement of older equipment with equipment meeting the latest emission standards.

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines.[23] Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels (see section "Use Alternative Fuels for Construction Equipment" for details). The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for PM and NOx. [24]

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure.[25] Replacements often require some re-engineering work due to differences in size and configuration. Typically there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.[26]

Use Alternative Fuels for Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[27] report proposes the use of alternative fuels for construction equipment as a way to mitigate ROG, NOx, and PM10 emissions. When construction equipment is powered by alternative fuels such as compressed natural gas (CNG) rather than conventional petroleum diesel or gasoline, emissions from fuel combustion may be reduced. There are many cleaner burning diesel or other fuels, such as natural gas or propane that are available for

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[21] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[22] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[23] http://www.epa.gov/cleandiesel/technologies/engines.htm
[24] http://www.epa.gov/cleandiesel/documents/420p11001.pdf
[25] http://www.epa.gov/cleandiesel/technologies/replacements.htm
[26] http://www.epa.gov/cleandiesel/technologies/engines.htm
[27] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

purchase. For example, ultra-low sulfur diesel (ULSD) contains lower levels of sulfur, reduces particulate matter (PM) emissions, and enhances the effectiveness of retrofit technologies.[28] The use of ULSD was required by the United States Environmental Protection Agency (EPA) for all new nonroad equipment in 2010; however, this requirement is only applicable to newly manufactured machinery. Therefore, the Project Applicant would have to make a conscious effort to only include newly manufactured and/or retrofitted equipment in their construction fleet. Other fuels available for use include biodiesel, emulsified diesel, compressed natural gas (CNG), liquefied natural gas (LNG), and liquefied petroleum gas (LPG). Emulsified diesel can be used in any new or existing diesel engine and effectively reduces PM as well as NOx. When CNG- and/or LNG-powered equipment is paired with catalysts or filters, the emissions are comparable to diesels outfitted with diesel particulate filters (DPFs). CNG and LNG are currently used to power yard tractors, forklifts, and loaders, and LPG forklifts and loaders are common applications. [29]

The 2015 emission reduction due to a fuel switch from diesel-powered to CNG-powered construction equipment is summarized in the table below.[30]

Equipment	Horsepower	2015					
		CO	CO_2e	NOx	PM	ROG	SO_2
Aerial Lifts	<15	-3040%	-27%	28%	-86%	57%	100%
	15 - 25	-4465%	-32%	32%	-48%	46%	100%
Air Conditioner	<175	-450%	-19%	-41%	47%	85%	100%
Baggage Tug	<120	-590%	-21%	30%	91%	89%	100%
Belt Loader	<120	-541%	-21%	31%	90%	91%	100%
Bobtail	<120	-505%	-19%	65%	89%	96%	100%
Cargo Loader	<120	-720%	-22%	4%	88%	83%	100%
Catering Truck	<250	-1899%	-20%	-54%	16%	72%	100%
Forklifts	<50	-85%	-20%	41%	83%	94%	100%
	50 - 120	-682%	-21%	23%	81%	89%	100%
	120 - 175	-596%	-20%	36%	68%	91%	100%
Generator Sets	<120	-456%	-11%	22%	84%	91%	100%
	<175	-444%	-10%	12%	71%	90%	100%
Lav Truck	<175	-483%	-20%	10%	76%	91%	100%
Lift	<120	-531%	-21%	17%	85%	89%	100%

Install Retrofit Devices on Existing Construction Equipment

PM and NOx emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. [31] Below is a table, prepared by the EPA, that summarizes the commonly used retrofit technologies and the typical cost and emission

[28] http://www.epa.gov/cleandiesel/technologies/fuels.htm
[29] http://www.epa.gov/cleandiesel/technologies/fuels.htm
[30] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[31] http://www.epa.gov/cleandiesel/technologies/index.htm

reductions associated with each technology.[32] It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications.

Technology	Typical Emissions Reductions (percent)				Typical Costs ($)
	PM	NOx	HC	CO	
Diesel Oxidation Catalyst (DOC)	20-40	-	40-70	40-60	Material: $600-$4,000 Installation: 1-3 hours
Diesel Particulate Filter (DPF)	85-95	-	85-95	50-90	Material: $8,000-$50,000 Installation: 6-8 hours
Partial Diesel Particulate Filter (pDPF)	up to 60	-	40-75	Oct-60	Material: $4,000-$6,000 Installation: 6-8 hours
Selective Catalyst Reduction (SCR)	-	up to 75	-	-	$10,000-$20,000; Urea $0.80/gal
Closed Crankcase Ventilation (CCV)	varies	-	-	-	-
Exhaust Gas Recirculation (EGR)	-	25-40	-	-	-
Lean NOx Catalyst (LNC)	-	May-40	-	-	$6,500-$10,000

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[33] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate ROG, NOx, and PM10 emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation[34] and Komptech USA[35], which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar[36]. For example, Caterpillar reports that during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.[37] Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour.

[32] http://www.epa.gov/cleandiesel/technologies/retrofits.htm
[33] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[34] http://www.petersoncorp.com/images/documents/brochures/electricgrinders.pdf
[35] http://www.komptech.com/en/about-us/green-efficiency.htm
[36] http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html
[37] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Institute a Heavy-Duty Off-Road Vehicle Plan

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[38] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring hour meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, prior to the construction of a Project the contractor should submit a certified list of all diesel vehicles, construction equipment, and generators to be used on site. [39] The list should include the following: [40]

- Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
- For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[41] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each onroad construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes: [42]

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement[43] signed and printed on the contractor's letterhead.

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[38] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[39] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[40] USEPA's Construction Fleet Inventory Guide is a useful tool in identifying the information required. http://www.epa.gov/cleandiesel/documents/420b10025.pdf
[41] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[42] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[43] The NEDC Model Certification Statement can be found in Appendix A. http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each onroad construction vehicle, nonroad construction equipment, or generator onsite, includes: [44]

- Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
- Any problems with the equipment or emission controls.
- Certified copies of fuel deliveries for the time period that identify:
    - Source of supply
    - Quantity of fuel
    - Quality of fuel, including sulfur content (percent by weight).

These measures are more stringent and prescriptive than those measures identified in the DEIR. When combined together, these measures offer a cost-effective way to incorporate lower-emitting equipment into the Project's construction fleet, as well as reduce total worker VMT, which subsequently, reduces NOx emissions released during Project construction. The addition of these new measures (listed above), incorporated with the mitigation measures already in place, will reduce the total criteria pollutant emissions, potentially to a level that does not exceed the PCAPCD thresholds. A revised DEIR should be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions to below thresholds.

Greenhouse Gas

Greenhouse Gas Emissions from Construction Inadequately Evaluated

Construction of the Project is anticipated to occur over the course of approximately 20 to 25 years. The DEIR anticipates that during the single most active possible construction year no more than 20 percent of the total Project construction effort could occur (DEIR p. 3-33). Therefore, in order to determine the greenhouse gas (GHG) emissions that would occur during a single year, the DEIR models emissions assuming that construction of the total Project would occur within one year, and then takes 20 percent of these values to determine the GHG emissions.

As previously discussed in the sections above[45], even though this method may be applicable to other proposed developments, it should not be used to determine the proposed Project's GHG emissions. The DEIR condenses the anticipated 20-25 year construction duration into a single year without accounting for the resultant increase in construction equipment. In order to actually quantify this increase, the Applicant would need to provide a site-specific construction schedule for the anticipated 20-25 year duration. According to the DEIR, the sequence and pace for constructing various land uses and facilities would be market driven; therefore, a specific construction schedule has not been developed. During some years there may be several Project elements under construction simultaneously and during other years there may be very little construction activity (p. 3-33). As a result, emissions from the entire Project, assuming construction would occur within a single year, cannot be accurately quantified using

[44] http://www.epa.gov/cleandiesel/documents/cl-nedc-model-2010rev.pdf
[45] See Section " Maximum Daily Construction Emissions Inadequately Evaluated"

this method. Therefore, the emissions modeled in the DEIR should not be utilized to determine Project significance, as they do not accurately represent the GHG emissions that would occur during a single year. As we demonstrated in Section "Maximum Daily Construction Emissions Inadequately Evaluated", an alternative method should be implemented to more accurately estimate the GHG emissions that could occur within a single year, and an updated DEIR should be prepared to include this updated analysis.

Using the same method discussed in the previous Section "Updated Analysis Demonstrates Significance of Daily Construction Emissions," we were able to more accurately determine the impact that GHG emissions released during construction may have, assuming 20 percent of the Project would be constructed within a single year. According to the DEIR, significance of construction-related GHG emissions can be determined by "using the mass emissions threshold of 1,100 $MTCO_2e$/year (metric tons of carbon dioxide-equivalent per year)," as recommended by the PCAPCD (p. 16-9).

The DEIR compares the underestimated construction-related GHG emissions to this threshold, and concludes that construction during any given year will result in a less-than-significant GHG impact (see table below) (p. 16-15).

Table 16-1 Summary of Maximum Annual GHG Emissions Associated with Project Construction Activities

Construction Activity	MT CO_2e/year
Demolition	59
Site Preparation	56
Grading	87
Paving	33
Building Construction	624
Architectural Coatings	81
Total Maximum Annual Emissions	**940**
PCAPCD Tier I Threshold of Significance	1,100

When we estimated the GHG emissions from construction of 20 percent of the Project using the method described in Section "Updated Analysis Demonstrates Significance of Daily Construction Emissions," we find that GHG emissions from construction would exceed PCAPCD's Tier 1 Threshold of 1,100 $MTCO_2e$/yr (see table below).[46]

Construction of 20 Percent of Project Summary of Maximum Annual GHG Emissions (MTCO2e/yr)	
Hagemann Model	2,135
DEIR Emission Estimates	940
PCAPCD Tier I Threshold of Significance	1,100
Exceed under Hagemann Model?	***Yes***
Exceed under DEIR model?	***No***

[46] See CalEEMod output file attached for emission estimate details.

The maximum annual GHG emission level of 2,135 $MTCO_2e$/yr would exceed the Tier 1 Threshold of 1,100 $MTCO_2e$/yr significantly. As a result, project-related construction would be substantial, and would result in a significant impact.

Fails to Utilize GHG Reduction Targets Specified in Executive Order B-30-15

Governor Brown recently issued an executive order to establish an even more ambitious GHG reduction target. Executive Order B-30-15[47] requires emissions reductions above those mandated by AB 32 to reduce GHG emissions 40 percent below their 1990 levels by 2030. 1990 statewide GHG emissions are estimated to be approximately 431 million $MTCO_2e$ ($MMTCO_2e$).[48] Therefore, by 2030 California will be required to reduce statewide emissions by 172 $MMTCO_2e$ (431 x 40%), which results in a statewide limit on GHG emissions of 259 $MMTCO_2e$. 2020 "business-as-usual" levels are estimated to be approximately 509 $MMTCO_2e$.[49] Therefore, in order to successfully reach the 2030 statewide goal of 259 $MMTCO_2e$, California would have to reduce its emissions by 49 percent below the "business-as-usual" levels.

This 49 percent reduction target should be considered as a threshold of significance against which to measure Project impacts. Because construction of the proposed Project is anticipated to occur over a 20 year period, with the first fully operational year anticipated to be 2037, the 2030 goals are applicable to any evaluation of the Project's impacts (p. 10-13). An updated DEIR should be prepared to demonstrate the Project's compliance with these more aggressive measures specified in Executive Order B-30-15. Specifically, the Project should demonstrate, at a minimum, a reduction of 49 percent below "business-as-usual" levels. It should be noted, however, that this reduction percentage is applicable to statewide emissions. As a result, an additional analysis would need to be conducted to translate the new statewide targets into a project-specific threshold against which Project GHG emissions can be compared. An environmental impact report should be prepared to quantify any reductions expected to be achieved by mitigation measures, shown by substantial evidence that such measures will be effective and should demonstrate how these measures will reduce the emissions below the new 2030 significance threshold.

Sincerely,

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

Jessie Jaeger

[47] http://gov.ca.gov/news.php?id=18938
[48] http://www.arb.ca.gov/cc/inventory/data/bau.htm
[49] http://energyinnovation.org/wp-content/uploads/2015/04/CA_CapReport_Mar2015.pdf

ATTACHMENT 1

Village At Squaw Valley - 20 Percent of Total Construction

Mountain Counties Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse High Rise	223.00	Dwelling Unit	5.62	362,676.00	0
Condo/Townhouse High Rise	87.00	Dwelling Unit	1.20	145,100.00	0
Condo/Townhouse High Rise	167.00	Dwelling Unit	4.69	252,875.00	0
User Defined Retail	0.00	User Defined Unit	0.00	67,264.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	8
Climate Zone	14			**Operational Year**	2017
Utility Company	Sierra Pacific Resources				
CO2 Intensity (lb/MWhr)	1328.16	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses represent 20 percent of the Project. Building square footages and acreages derived from Appendix H.

Construction Phase - Construction Schedule taken from DEIR.

Grading - Acres of grading calculated by CalEEMod

Demolition - 91,522 sf x 20%

Trips and VMT - Maximum Daily Workers was assumed to be 136 workers per day.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	314.00
tblConstructionPhase	NumDays	300.00	314.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	30.00	144.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	10.00	144.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/2/2018	12/31/2016
tblConstructionPhase	PhaseEndDate	6/17/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblGrading	AcresOfGrading	360.00	75.00
tblLandUse	LandUseSquareFeet	223,000.00	362,676.00
tblLandUse	LandUseSquareFeet	87,000.00	145,100.00
tblLandUse	LandUseSquareFeet	167,000.00	252,875.00
tblLandUse	LandUseSquareFeet	0.00	67,264.00

tblLandUse	LotAcreage	3.48	5.62
tblLandUse	LotAcreage	1.36	1.20
tblLandUse	LotAcreage	2.61	4.69
tblLandUse	Population	638.00	0.00
tblLandUse	Population	249.00	0.00
tblLandUse	Population	478.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	365.00	136.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	14.9728	20.3537	18.8015	0.0241	2.3214	1.0847	3.4060	1.1030	1.0084	2.1113	0.0000	2,125.7454	2,125.7454	0.4518	0.0000	2,135.2337
Total	**14.9728**	**20.3537**	**18.8015**	**0.0241**	**2.3214**	**1.0847**	**3.4060**	**1.1030**	**1.0084**	**2.1113**	**0.0000**	**2,125.7454**	**2,125.7454**	**0.4518**	**0.0000**	**2,135.2337**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	14.9728	20.3537	18.8015	0.0241	2.3214	1.0847	3.4060	1.1030	1.0084	2.1113	0.0000	2,125.7435	2,125.7435	0.4518	0.0000	2,135.2319
Total	**14.9728**	**20.3537**	**18.8015**	**0.0241**	**2.3214**	**1.0847**	**3.4060**	**1.1030**	**1.0084**	**2.1113**	**0.0000**	**2,125.7435**	**2,125.7435**	**0.4518**	**0.0000**	**2,135.2319**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	94.4025	1.2599	114.1889	0.0434		15.5597	15.5597		15.5592	15.5592	1,478.1625	625.7052	2,103.8677	1.3699	0.1163	2,168.6790
Energy	0.0177	0.1512	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	1,503.6826	1,503.6826	0.0324	9.2100e-003	1,507.2178
Mobile	3.6663	10.5309	40.5829	0.0648	4.3325	0.1280	4.4604	1.1596	0.1176	1.2772	0.0000	5,042.0384	5,042.0384	0.2384	0.0000	5,047.0450
Waste						0.0000	0.0000		0.0000	0.0000	44.5403	0.0000	44.5403	2.6323	0.0000	99.8176
Water						0.0000	0.0000		0.0000	0.0000	9.8598	142.6230	152.4827	1.0158	0.0246	181.4271
Total	**98.0865**	**11.9419**	**154.8361**	**0.1091**	**4.3325**	**15.6999**	**20.0323**	**1.1596**	**15.6891**	**16.8486**	**1,532.5625**	**7,314.0492**	**8,846.6117**	**5.2888**	**0.1500**	**9,004.1865**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	94.4025	1.2599	114.1889	0.0434		15.5597	15.5597		15.5592	15.5592	1,478.1625	625.7052	2,103.8677	1.3699	0.1163	2,168.6790
Energy	0.0177	0.1512	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	1,503.6826	1,503.6826	0.0324	9.2100e-003	1,507.2178
Mobile	3.6663	10.5309	40.5829	0.0648	4.3325	0.1280	4.4604	1.1596	0.1176	1.2772	0.0000	5,042.0384	5,042.0384	0.2384	0.0000	5,047.0450
Waste						0.0000	0.0000		0.0000	0.0000	44.5403	0.0000	44.5403	2.6323	0.0000	99.8176
Water						0.0000	0.0000		0.0000	0.0000	9.8598	142.6230	152.4827	1.0156	0.0245	181.4114
Total	**98.0865**	**11.9419**	**154.8361**	**0.1091**	**4.3325**	**15.6999**	**20.0323**	**1.1596**	**15.6891**	**16.8486**	**1,532.5625**	**7,314.0492**	**8,846.6117**	**5.2886**	**0.1500**	**9,004.1708**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2016	12/31/2016	6	314	
2	Architectural Coating	Architectural Coating	1/1/2016	12/31/2016	6	314	
3	Demolition	Demolition	5/1/2016	10/15/2016	6	144	
4	Site Preparation	Site Preparation	5/1/2016	10/15/2016	6	144	
5	Grading	Grading	5/1/2016	10/15/2016	6	144	
6	Paving	Paving	5/1/2016	10/15/2016	6	144	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 1,540,318; Residential Outdoor: 513,439; Non-Residential Indoor: 100,896; Non-Residential Outdoor: 33,632 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	83.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	136.00	62.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5348	4.4755	2.9055	4.2100e-003		0.3089	0.3089		0.2902	0.2902	0.0000	380.1811	380.1811	0.0943	0.0000	382.1613
Total	**0.5348**	**4.4755**	**2.9055**	**4.2100e-003**		**0.3089**	**0.3089**		**0.2902**	**0.2902**	**0.0000**	**380.1811**	**380.1811**	**0.0943**	**0.0000**	**382.1613**

3.2 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1735	0.9067	2.0169	2.1200e-003	0.0581	0.0151	0.0732	0.0166	0.0139	0.0305	0.0000	190.8044	190.8044	1.6500e-003	0.0000	190.8391
Worker	0.1336	0.2085	1.9713	3.1200e-003	0.2714	2.3700e-003	0.2738	0.0720	2.1600e-003	0.0742	0.0000	231.5467	231.5467	0.0149	0.0000	231.8604
Total	**0.3070**	**1.1152**	**3.9882**	**5.2400e-003**	**0.3296**	**0.0175**	**0.3470**	**0.0886**	**0.0160**	**0.1046**	**0.0000**	**422.3511**	**422.3511**	**0.0166**	**0.0000**	**422.6995**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5348	4.4755	2.9055	4.2100e-003		0.3089	0.3089		0.2902	0.2902	0.0000	380.1807	380.1807	0.0943	0.0000	382.1608
Total	**0.5348**	**4.4755**	**2.9055**	**4.2100e-003**		**0.3089**	**0.3089**		**0.2902**	**0.2902**	**0.0000**	**380.1807**	**380.1807**	**0.0943**	**0.0000**	**382.1608**

3.2 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1735	0.9067	2.0169	2.1200e-003	0.0581	0.0151	0.0732	0.0166	0.0139	0.0305	0.0000	190.8044	190.8044	1.6500e-003	0.0000	190.8391
Worker	0.1336	0.2085	1.9713	3.1200e-003	0.2714	2.3700e-003	0.2738	0.0720	2.1600e-003	0.0742	0.0000	231.5467	231.5467	0.0149	0.0000	231.8604
Total	**0.3070**	**1.1152**	**3.9882**	**5.2400e-003**	**0.3296**	**0.0175**	**0.3470**	**0.0886**	**0.0160**	**0.1046**	**0.0000**	**422.3511**	**422.3511**	**0.0166**	**0.0000**	**422.6995**

3.3 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.6784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.3724	0.2958	4.7000e-004		0.0309	0.0309		0.0309	0.0309	0.0000	40.0861	40.0861	4.7300e-003	0.0000	40.1853
Total	**12.7362**	**0.3724**	**0.2958**	**4.7000e-004**		**0.0309**	**0.0309**		**0.0309**	**0.0309**	**0.0000**	**40.0861**	**40.0861**	**4.7300e-003**	**0.0000**	**40.1853**

3.3 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.1119	1.0581	1.6700e-003	0.1457	1.2700e-003	0.1470	0.0387	1.1600e-003	0.0398	0.0000	124.2861	124.2861	8.0200e-003	0.0000	124.4545
Total	**0.0717**	**0.1119**	**1.0581**	**1.6700e-003**	**0.1457**	**1.2700e-003**	**0.1470**	**0.0387**	**1.1600e-003**	**0.0398**	**0.0000**	**124.2861**	**124.2861**	**8.0200e-003**	**0.0000**	**124.4545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	12.6784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.3724	0.2958	4.7000e-004		0.0309	0.0309		0.0309	0.0309	0.0000	40.0860	40.0860	4.7300e-003	0.0000	40.1853
Total	**12.7362**	**0.3724**	**0.2958**	**4.7000e-004**		**0.0309**	**0.0309**		**0.0309**	**0.0309**	**0.0000**	**40.0860**	**40.0860**	**4.7300e-003**	**0.0000**	**40.1853**

3.3 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.1119	1.0581	1.6700e-003	0.1457	1.2700e-003	0.1470	0.0387	1.1600e-003	0.0398	0.0000	124.2861	124.2861	8.0200e-003	0.0000	124.4545
Total	**0.0717**	**0.1119**	**1.0581**	**1.6700e-003**	**0.1457**	**1.2700e-003**	**0.1470**	**0.0387**	**1.1600e-003**	**0.0398**	**0.0000**	**124.2861**	**124.2861**	**8.0200e-003**	**0.0000**	**124.4545**

3.4 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0100e-003	0.0000	9.0100e-003	1.3600e-003	0.0000	1.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3087	3.2872	2.5222	2.8700e-003		0.1650	0.1650		0.1538	0.1538	0.0000	267.1010	267.1010	0.0726	0.0000	268.6264
Total	**0.3087**	**3.2872**	**2.5222**	**2.8700e-003**	**9.0100e-003**	**0.1650**	**0.1740**	**1.3600e-003**	**0.1538**	**0.1552**	**0.0000**	**267.1010**	**267.1010**	**0.0726**	**0.0000**	**268.6264**

3.4 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2800e-003	0.0117	0.0153	3.0000e-005	7.2000e-004	1.8000e-004	9.0000e-004	2.0000e-004	1.6000e-004	3.6000e-004	0.0000	2.8226	2.8226	2.0000e-005	0.0000	2.8230
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	0.0105	0.0997	1.6000e-004	0.0137	1.2000e-004	0.0139	3.6400e-003	1.1000e-004	3.7500e-003	0.0000	11.7118	11.7118	7.6000e-004	0.0000	11.7277
Total	**8.0400e-003**	**0.0222**	**0.1151**	**1.9000e-004**	**0.0145**	**3.0000e-004**	**0.0148**	**3.8400e-003**	**2.7000e-004**	**4.1100e-003**	**0.0000**	**14.5344**	**14.5344**	**7.8000e-004**	**0.0000**	**14.5507**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0100e-003	0.0000	9.0100e-003	1.3600e-003	0.0000	1.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3087	3.2872	2.5222	2.8700e-003		0.1650	0.1650		0.1538	0.1538	0.0000	267.1007	267.1007	0.0726	0.0000	268.6261
Total	**0.3087**	**3.2872**	**2.5222**	**2.8700e-003**	**9.0100e-003**	**0.1650**	**0.1740**	**1.3600e-003**	**0.1538**	**0.1552**	**0.0000**	**267.1007**	**267.1007**	**0.0726**	**0.0000**	**268.6261**

3.4 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2800e-003	0.0117	0.0153	3.0000e-005	7.2000e-004	1.8000e-004	9.0000e-004	2.0000e-004	1.6000e-004	3.6000e-004	0.0000	2.8226	2.8226	2.0000e-005	0.0000	2.8230
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	0.0105	0.0997	1.6000e-004	0.0137	1.2000e-004	0.0139	3.6400e-003	1.1000e-004	3.7500e-003	0.0000	11.7118	11.7118	7.6000e-004	0.0000	11.7277
Total	**8.0400e-003**	**0.0222**	**0.1151**	**1.9000e-004**	**0.0145**	**3.0000e-004**	**0.0148**	**3.8400e-003**	**2.7000e-004**	**4.1100e-003**	**0.0000**	**14.5344**	**14.5344**	**7.8000e-004**	**0.0000**	**14.5507**

3.5 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3008	0.0000	1.3008	0.7150	0.0000	0.7150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3656	3.9335	2.9596	2.8100e-003		0.2116	0.2116		0.1947	0.1947	0.0000	265.5152	265.5152	0.0801	0.0000	267.1970
Total	**0.3656**	**3.9335**	**2.9596**	**2.8100e-003**	**1.3008**	**0.2116**	**1.5124**	**0.7150**	**0.1947**	**0.9097**	**0.0000**	**265.5152**	**265.5152**	**0.0801**	**0.0000**	**267.1970**

3.5 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1100e-003	0.0127	0.1197	1.9000e-004	0.0165	1.4000e-004	0.0166	4.3700e-003	1.3000e-004	4.5000e-003	0.0000	14.0542	14.0542	9.1000e-004	0.0000	14.0732
Total	**8.1100e-003**	**0.0127**	**0.1197**	**1.9000e-004**	**0.0165**	**1.4000e-004**	**0.0166**	**4.3700e-003**	**1.3000e-004**	**4.5000e-003**	**0.0000**	**14.0542**	**14.0542**	**9.1000e-004**	**0.0000**	**14.0732**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3008	0.0000	1.3008	0.7150	0.0000	0.7150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3656	3.9335	2.9596	2.8100e-003		0.2116	0.2116		0.1947	0.1947	0.0000	265.5149	265.5149	0.0801	0.0000	267.1967
Total	**0.3656**	**3.9335**	**2.9596**	**2.8100e-003**	**1.3008**	**0.2116**	**1.5124**	**0.7150**	**0.1947**	**0.9097**	**0.0000**	**265.5149**	**265.5149**	**0.0801**	**0.0000**	**267.1967**

3.5 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1100e-003	0.0127	0.1197	1.9000e-004	0.0165	1.4000e-004	0.0166	4.3700e-003	1.3000e-004	4.5000e-003	0.0000	14.0542	14.0542	9.1000e-004	0.0000	14.0732
Total	**8.1100e-003**	**0.0127**	**0.1197**	**1.9000e-004**	**0.0165**	**1.4000e-004**	**0.0166**	**4.3700e-003**	**1.3000e-004**	**4.5000e-003**	**0.0000**	**14.0542**	**14.0542**	**9.1000e-004**	**0.0000**	**14.0732**

3.6 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4734	0.0000	0.4734	0.2426	0.0000	0.2426	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4665	5.3866	3.5379	4.4400e-003		0.2581	0.2581		0.2374	0.2374	0.0000	419.0092	419.0092	0.1264	0.0000	421.6634
Total	**0.4665**	**5.3866**	**3.5379**	**4.4400e-003**	**0.4734**	**0.2581**	**0.7314**	**0.2426**	**0.2374**	**0.4801**	**0.0000**	**419.0092**	**419.0092**	**0.1264**	**0.0000**	**421.6634**

3.6 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0100e-003	0.0141	0.1330	2.1000e-004	0.0183	1.6000e-004	0.0185	4.8600e-003	1.5000e-004	5.0000e-003	0.0000	15.6157	15.6157	1.0100e-003	0.0000	15.6369
Total	**9.0100e-003**	**0.0141**	**0.1330**	**2.1000e-004**	**0.0183**	**1.6000e-004**	**0.0185**	**4.8600e-003**	**1.5000e-004**	**5.0000e-003**	**0.0000**	**15.6157**	**15.6157**	**1.0100e-003**	**0.0000**	**15.6369**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4734	0.0000	0.4734	0.2426	0.0000	0.2426	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4665	5.3866	3.5379	4.4400e-003		0.2581	0.2581		0.2374	0.2374	0.0000	419.0087	419.0087	0.1264	0.0000	421.6629
Total	**0.4665**	**5.3866**	**3.5379**	**4.4400e-003**	**0.4734**	**0.2581**	**0.7314**	**0.2426**	**0.2374**	**0.4801**	**0.0000**	**419.0087**	**419.0087**	**0.1264**	**0.0000**	**421.6629**

3.6 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0100e-003	0.0141	0.1330	2.1000e-004	0.0183	1.6000e-004	0.0185	4.8600e-003	1.5000e-004	5.0000e-003	0.0000	15.6157	15.6157	1.0100e-003	0.0000	15.6369
Total	**9.0100e-003**	**0.0141**	**0.1330**	**2.1000e-004**	**0.0183**	**1.6000e-004**	**0.0185**	**4.8600e-003**	**1.5000e-004**	**5.0000e-003**	**0.0000**	**15.6157**	**15.6157**	**1.0100e-003**	**0.0000**	**15.6369**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1505	1.6118	1.0669	1.6000e-003		0.0908	0.0908		0.0835	0.0835	0.0000	151.2995	151.2995	0.0456	0.0000	152.2579
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1505**	**1.6118**	**1.0669**	**1.6000e-003**		**0.0908**	**0.0908**		**0.0835**	**0.0835**	**0.0000**	**151.2995**	**151.2995**	**0.0456**	**0.0000**	**152.2579**

3.7 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	0.0105	0.0997	1.6000e-004	0.0137	1.2000e-004	0.0139	3.6400e-003	1.1000e-004	3.7500e-003	0.0000	11.7118	11.7118	7.6000e-004	0.0000	11.7277
Total	**6.7600e-003**	**0.0105**	**0.0997**	**1.6000e-004**	**0.0137**	**1.2000e-004**	**0.0139**	**3.6400e-003**	**1.1000e-004**	**3.7500e-003**	**0.0000**	**11.7118**	**11.7118**	**7.6000e-004**	**0.0000**	**11.7277**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1505	1.6118	1.0669	1.6000e-003		0.0908	0.0908		0.0835	0.0835	0.0000	151.2993	151.2993	0.0456	0.0000	152.2577
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1505**	**1.6118**	**1.0669**	**1.6000e-003**		**0.0908**	**0.0908**		**0.0835**	**0.0835**	**0.0000**	**151.2993**	**151.2993**	**0.0456**	**0.0000**	**152.2577**

3.7 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	0.0105	0.0997	1.6000e-004	0.0137	1.2000e-004	0.0139	3.6400e-003	1.1000e-004	3.7500e-003	0.0000	11.7118	11.7118	7.6000e-004	0.0000	11.7277
Total	**6.7600e-003**	**0.0105**	**0.0997**	**1.6000e-004**	**0.0137**	**1.2000e-004**	**0.0139**	**3.6400e-003**	**1.1000e-004**	**3.7500e-003**	**0.0000**	**11.7118**	**11.7118**	**7.6000e-004**	**0.0000**	**11.7277**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6663	10.5309	40.5829	0.0648	4.3325	0.1280	4.4604	1.1596	0.1176	1.2772	0.0000	5,042.0384	5,042.0384	0.2384	0.0000	5,047.0450
Unmitigated	3.6663	10.5309	40.5829	0.0648	4.3325	0.1280	4.4604	1.1596	0.1176	1.2772	0.0000	5,042.0384	5,042.0384	0.2384	0.0000	5,047.0450

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	1,469.57	1,596.68	1353.61	5,255,169	5,255,169
Condo/Townhouse High Rise	573.33	622.92	528.09	2,050,223	2,050,223
Condo/Townhouse High Rise	1,100.53	1,195.72	1013.69	3,935,485	3,935,485
User Defined Retail	0.00	0.00	0.00		
Total	3,143.43	3,415.32	2,895.39	11,240,877	11,240,877

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
User Defined Retail	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381852	0.086091	0.200079	0.163903	0.085749	0.010610	0.015453	0.038109	0.001550	0.000665	0.009389	0.000881	0.005669

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,328.6341	1,328.6341	0.0290	6.0000e-003	1,331.1039
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,328.6341	1,328.6341	0.0290	6.0000e-003	1,331.1039
NaturalGas Mitigated	0.0177	0.1512	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	175.0486	175.0486	3.3600e-003	3.2100e-003	176.1139
NaturalGas Unmitigated	0.0177	0.1512	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	175.0486	175.0486	3.3600e-003	3.2100e-003	176.1139

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse High Rise	598291	3.2300e-003	0.0276	0.0117	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9271	31.9271	6.1000e-004	5.9000e-004	32.1214
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse High Rise	1.14844e+006	6.1900e-003	0.0529	0.0225	3.4000e-004		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	61.2853	61.2853	1.1700e-003	1.1200e-003	61.6583
Condo/Townhouse High Rise	1.53355e+006	8.2700e-003	0.0707	0.0301	4.5000e-004		5.7100e-003	5.7100e-003		5.7100e-003	5.7100e-003	0.0000	81.8361	81.8361	1.5700e-003	1.5000e-003	82.3342
Total		**0.0177**	**0.1512**	**0.0643**	**9.7000e-004**		**0.0122**	**0.0122**		**0.0122**	**0.0122**	**0.0000**	**175.0486**	**175.0486**	**3.3500e-003**	**3.2100e-003**	**176.1139**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse High Rise	1.14844e+006	6.1900e-003	0.0529	0.0225	3.4000e-004		4.2800e-003	4.2800e-003		4.2800e-003	4.2800e-003	0.0000	61.2853	61.2853	1.1700e-003	1.1200e-003	61.6583
Condo/Townhouse High Rise	1.53355e+006	8.2700e-003	0.0707	0.0301	4.5000e-004		5.7100e-003	5.7100e-003		5.7100e-003	5.7100e-003	0.0000	81.8361	81.8361	1.5700e-003	1.5000e-003	82.3342
Condo/Townhouse High Rise	598291	3.2300e-003	0.0276	0.0117	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9271	31.9271	6.1000e-004	5.9000e-004	32.1214
Total		**0.0177**	**0.1512**	**0.0643**	**9.7000e-004**		**0.0122**	**0.0122**		**0.0122**	**0.0122**	**0.0000**	**175.0486**	**175.0486**	**3.3500e-003**	**3.2100e-003**	**176.1139**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	1.03104e+006	621.1434	0.0136	2.8100e-003	622.2981
Condo/Townhouse High Rise	402245	242.3295	5.2900e-003	1.0900e-003	242.7800
Condo/Townhouse High Rise	772125	465.1612	0.0102	2.1000e-003	466.0259
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		**1,328.6341**	**0.0290**	**6.0000e-003**	**1,331.1039**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	1.03104e+006	621.1434	0.0136	2.8100e-003	622.2981
Condo/Townhouse High Rise	402245	242.3295	5.2900e-003	1.0900e-003	242.7800
Condo/Townhouse High Rise	772125	465.1612	0.0102	2.1000e-003	466.0259
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		**1,328.6341**	**0.0290**	**6.0000e-003**	**1,331.1039**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	94.4025	1.2599	114.1889	0.0434		15.5597	15.5597		15.5592	15.5592	1,478.1625	625.7052	2,103.8677	1.3699	0.1163	2,168.6790
Unmitigated	94.4025	1.2599	114.1889	0.0434		15.5597	15.5597		15.5592	15.5592	1,478.1625	625.7052	2,103.8677	1.3699	0.1163	2,168.6790

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2678					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2334					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	89.7898	1.2182	110.6114	0.0432		15.5402	15.5402		15.5398	15.5398	1,478.1625	619.9198	2,098.0823	1.3641	0.1163	2,162.7716
Landscaping	0.1114	0.0417	3.5775	1.9000e-004		0.0194	0.0194		0.0194	0.0194	0.0000	5.7854	5.7854	5.8100e-003	0.0000	5.9074
Total	**94.4025**	**1.2599**	**114.1889**	**0.0434**		**15.5597**	**15.5597**		**15.5592**	**15.5592**	**1,478.1625**	**625.7052**	**2,103.8677**	**1.3699**	**0.1163**	**2,168.6790**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.2678					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2334					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	89.7898	1.2182	110.6114	0.0432		15.5402	15.5402		15.5398	15.5398	1,478.1625	619.9198	2,098.0823	1.3641	0.1163	2,162.7716
Landscaping	0.1114	0.0417	3.5775	1.9000e-004		0.0194	0.0194		0.0194	0.0194	0.0000	5.7854	5.7854	5.8100e-003	0.0000	5.9074
Total	**94.4025**	**1.2599**	**114.1889**	**0.0434**		**15.5597**	**15.5597**		**15.5592**	**15.5592**	**1,478.1625**	**625.7052**	**2,103.8677**	**1.3699**	**0.1163**	**2,168.6790**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	152.4827	1.0156	0.0245	181.4114
Unmitigated	152.4827	1.0158	0.0246	181.4271

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	31.0785 / 19.5929	152.4827	1.0158	0.0246	181.4271
User Defined Retail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**152.4827**	**1.0158**	**0.0246**	**181.4271**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	31.0785 / 19.5929	152.4827	1.0156	0.0245	181.4114
User Defined Retail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**152.4827**	**1.0156**	**0.0245**	**181.4114**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	44.5403	2.6323	0.0000	99.8176
Unmitigated	44.5403	2.6323	0.0000	99.8176

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	219.42	44.5403	2.6323	0.0000	99.8176
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		**44.5403**	**2.6323**	**0.0000**	**99.8176**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	219.42	44.5403	2.6323	0.0000	99.8176
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000
Total		**44.5403**	**2.6323**	**0.0000**	**99.8176**

9.0 Operational Offroad

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

10.0 Vegetation

Village At Squaw Valley - 20 Percent of Total Construction

Mountain Counties Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse High Rise	223.00	Dwelling Unit	5.62	362,676.00	0
Condo/Townhouse High Rise	87.00	Dwelling Unit	1.20	145,100.00	0
Condo/Townhouse High Rise	167.00	Dwelling Unit	4.69	252,875.00	0
User Defined Retail	0.00	User Defined Unit	0.00	67,264.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	8
Climate Zone	14			**Operational Year**	2017
Utility Company	Sierra Pacific Resources				
CO2 Intensity (lb/MWhr)	1328.16	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses represent 20 percent of the Project. Building square footages and acreages derived from Appendix H.

Construction Phase - Construction Schedule taken from DEIR.

Grading - Acres of grading calculated by CalEEMod

Demolition - 91,522 sf x 20%

Trips and VMT - Maximum Daily Workers was assumed to be 136 workers per day.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	314.00
tblConstructionPhase	NumDays	300.00	314.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	30.00	144.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	10.00	144.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/2/2018	12/31/2016
tblConstructionPhase	PhaseEndDate	6/17/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblGrading	AcresOfGrading	360.00	75.00
tblLandUse	LandUseSquareFeet	223,000.00	362,676.00
tblLandUse	LandUseSquareFeet	87,000.00	145,100.00
tblLandUse	LandUseSquareFeet	167,000.00	252,875.00
tblLandUse	LandUseSquareFeet	0.00	67,264.00

tblLandUse	LotAcreage	3.48	5.62
tblLandUse	LotAcreage	1.36	1.20
tblLandUse	LotAcreage	2.61	4.69
tblLandUse	Population	638.00	0.00
tblLandUse	Population	249.00	0.00
tblLandUse	Population	478.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	365.00	136.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	105.2735	236.3464	196.7637	0.2505	28.6857	12.3687	41.0545	14.3665	11.4608	25.8274	0.0000	24,814.1949	24,814.1949	5.8925	0.0000	24,937.9381
Total	**105.2735**	**236.3464**	**196.7637**	**0.2505**	**28.6857**	**12.3687**	**41.0545**	**14.3665**	**11.4608**	**25.8274**	**0.0000**	**24,814.1949**	**24,814.1949**	**5.8925**	**0.0000**	**24,937.9381**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	105.2735	236.3464	196.7637	0.2505	28.6857	12.3687	41.0545	14.3665	11.4608	25.8274	0.0000	24,814.1949	24,814.1949	5.8925	0.0000	24,937.9381
Total	**105.2735**	**236.3464**	**196.7637**	**0.2505**	**28.6857**	**12.3687**	**41.0545**	**14.3665**	**11.4608**	**25.8274**	**0.0000**	**24,814.1949**	**24,814.1949**	**5.8925**	**0.0000**	**24,937.9381**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Energy	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
Mobile	22.5662	57.7398	230.5602	0.4090	25.9570	0.7627	26.7197	6.9445	0.7010	7.6456		35,001.8605	35,001.8605	1.5685		35,034.8000
Total	**2,238.5603**	**88.7438**	**2,968.5011**	**1.4701**	**25.9570**	**380.0755**	**406.0325**	**6.9445**	**380.0027**	**386.9472**	**39,741.3467**	**52,796.9653**	**92,538.3120**	**38.3346**	**3.1453**	**94,318.3942**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Energy	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
Mobile	22.5662	57.7398	230.5602	0.4090	25.9570	0.7627	26.7197	6.9445	0.7010	7.6456		35,001.8605	35,001.8605	1.5685		35,034.8000
Total	**2,238.5603**	**88.7438**	**2,968.5011**	**1.4701**	**25.9570**	**380.0755**	**406.0325**	**6.9445**	**380.0027**	**386.9472**	**39,741.3467**	**52,796.9653**	**92,538.3120**	**38.3346**	**3.1453**	**94,318.3942**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2016	12/31/2016	6	314	
2	Architectural Coating	Architectural Coating	1/1/2016	12/31/2016	6	314	
3	Demolition	Demolition	5/1/2016	10/15/2016	6	144	
4	Site Preparation	Site Preparation	5/1/2016	10/15/2016	6	144	
5	Grading	Grading	5/1/2016	10/15/2016	6	144	
6	Paving	Paving	5/1/2016	10/15/2016	6	144	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 1,540,318; Residential Outdoor: 513,439; Non-Residential Indoor: 100,896; Non-Residential Outdoor: 33,632 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	83.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	136.00	62.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.2 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9065	5.5233	8.8855	0.0135	0.3717	0.0955	0.4673	0.1060	0.0878	0.1938		1,344.3788	1,344.3788	0.0115		1,344.6193
Worker	0.9276	1.1302	13.3748	0.0215	1.7371	0.0151	1.7522	0.4607	0.0138	0.4744		1,762.6870	1,762.6870	0.1049		1,764.8899
Total	**1.8341**	**6.6535**	**22.2604**	**0.0350**	**2.1089**	**0.1106**	**2.2195**	**0.5667**	**0.1015**	**0.6682**		**3,107.0658**	**3,107.0658**	**0.1164**		**3,109.5092**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.2 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9065	5.5233	8.8855	0.0135	0.3717	0.0955	0.4673	0.1060	0.0878	0.1938		1,344.3788	1,344.3788	0.0115		1,344.6193
Worker	0.9276	1.1302	13.3748	0.0215	1.7371	0.0151	1.7522	0.4607	0.0138	0.4744		1,762.6870	1,762.6870	0.1049		1,764.8899
Total	**1.8341**	**6.6535**	**22.2604**	**0.0350**	**2.1089**	**0.1106**	**2.2195**	**0.5667**	**0.1015**	**0.6682**		**3,107.0658**	**3,107.0658**	**0.1164**		**3,109.5092**

3.3 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	80.7540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**81.1225**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.3 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4979	0.6066	7.1791	0.0116	0.9324	8.1100e-003	0.9405	0.2473	7.3900e-003	0.2547		946.1482	946.1482	0.0563		947.3306
Total	**0.4979**	**0.6066**	**7.1791**	**0.0116**	**0.9324**	**8.1100e-003**	**0.9405**	**0.2473**	**7.3900e-003**	**0.2547**		**946.1482**	**946.1482**	**0.0563**		**947.3306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	80.7540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**81.1225**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.3 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4979	0.6066	7.1791	0.0116	0.9324	8.1100e-003	0.9405	0.2473	7.3900e-003	0.2547		946.1482	946.1482	0.0563		947.3306
Total	**0.4979**	**0.6066**	**7.1791**	**0.0116**	**0.9324**	**8.1100e-003**	**0.9405**	**0.2473**	**7.3900e-003**	**0.2547**		**946.1482**	**946.1482**	**0.0563**		**947.3306**

3.4 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1251	0.0000	0.1251	0.0190	0.0000	0.0190			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.1251**	**2.2921**	**2.4173**	**0.0190**	**2.1365**	**2.1555**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.4 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0150	0.1547	0.1556	4.3000e-004	0.0100	2.4400e-003	0.0125	2.7500e-003	2.2500e-003	4.9900e-003		43.2562	43.2562	3.1000e-004		43.2628
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.1247	1.4752	2.3700e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		194.4140	194.4140	0.0116		194.6570
Total	**0.1173**	**0.2794**	**1.6308**	**2.8000e-003**	**0.2016**	**4.1100e-003**	**0.2057**	**0.0536**	**3.7700e-003**	**0.0573**		**237.6702**	**237.6702**	**0.0119**		**237.9198**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1251	0.0000	0.1251	0.0190	0.0000	0.0190			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.1251**	**2.2921**	**2.4173**	**0.0190**	**2.1365**	**2.1555**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.4 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0150	0.1547	0.1556	4.3000e-004	0.0100	2.4400e-003	0.0125	2.7500e-003	2.2500e-003	4.9900e-003		43.2562	43.2562	3.1000e-004		43.2628
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.1247	1.4752	2.3700e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		194.4140	194.4140	0.0116		194.6570
Total	**0.1173**	**0.2794**	**1.6308**	**2.8000e-003**	**0.2016**	**4.1100e-003**	**0.2057**	**0.0536**	**3.7700e-003**	**0.0573**		**237.6702**	**237.6702**	**0.0119**		**237.9198**

3.5 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.5 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1228	0.1496	1.7702	2.8500e-003	0.2299	2.0000e-003	0.2319	0.0610	1.8200e-003	0.0628		233.2968	233.2968	0.0139		233.5884
Total	**0.1228**	**0.1496**	**1.7702**	**2.8500e-003**	**0.2299**	**2.0000e-003**	**0.2319**	**0.0610**	**1.8200e-003**	**0.0628**		**233.2968**	**233.2968**	**0.0139**		**233.5884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.5 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1228	0.1496	1.7702	2.8500e-003	0.2299	2.0000e-003	0.2319	0.0610	1.8200e-003	0.0628		233.2968	233.2968	0.0139		233.5884
Total	**0.1228**	**0.1496**	**1.7702**	**2.8500e-003**	**0.2299**	**2.0000e-003**	**0.2319**	**0.0610**	**1.8200e-003**	**0.0628**		**233.2968**	**233.2968**	**0.0139**		**233.5884**

3.6 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5744	0.0000	6.5744	3.3699	0.0000	3.3699			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**6.5744**	**3.5842**	**10.1587**	**3.3699**	**3.2975**	**6.6674**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.6 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1364	0.1662	1.9669	3.1700e-003	0.2555	2.2200e-003	0.2577	0.0678	2.0200e-003	0.0698		259.2187	259.2187	0.0154		259.5426
Total	**0.1364**	**0.1662**	**1.9669**	**3.1700e-003**	**0.2555**	**2.2200e-003**	**0.2577**	**0.0678**	**2.0200e-003**	**0.0698**		**259.2187**	**259.2187**	**0.0154**		**259.5426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5744	0.0000	6.5744	3.3699	0.0000	3.3699			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**6.5744**	**3.5842**	**10.1587**	**3.3699**	**3.2975**	**6.6674**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.6 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1364	0.1662	1.9669	3.1700e-003	0.2555	2.2200e-003	0.2577	0.0678	2.0200e-003	0.0698		259.2187	259.2187	0.0154		259.5426
Total	**0.1364**	**0.1662**	**1.9669**	**3.1700e-003**	**0.2555**	**2.2200e-003**	**0.2577**	**0.0678**	**2.0200e-003**	**0.0698**		**259.2187**	**259.2187**	**0.0154**		**259.5426**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987		2,331.0495
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0898**	**22.3859**	**14.8176**	**0.0223**		**1.2610**	**1.2610**		**1.1601**	**1.1601**		**2,316.3767**	**2,316.3767**	**0.6987**		**2,331.0495**

3.7 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.1247	1.4752	2.3700e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		194.4140	194.4140	0.0116		194.6570
Total	**0.1023**	**0.1247**	**1.4752**	**2.3700e-003**	**0.1916**	**1.6700e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**194.4140**	**194.4140**	**0.0116**		**194.6570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0898**	**22.3859**	**14.8176**	**0.0223**		**1.2610**	**1.2610**		**1.1601**	**1.1601**	**0.0000**	**2,316.3767**	**2,316.3767**	**0.6987**		**2,331.0495**

3.7 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1023	0.1247	1.4752	2.3700e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		194.4140	194.4140	0.0116		194.6570
Total	**0.1023**	**0.1247**	**1.4752**	**2.3700e-003**	**0.1916**	**1.6700e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**194.4140**	**194.4140**	**0.0116**		**194.6570**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	22.5662	57.7398	230.5602	0.4090	25.9570	0.7627	26.7197	6.9445	0.7010	7.6456		35,001.8605	35,001.8605	1.5685		35,034.8000
Unmitigated	22.5662	57.7398	230.5602	0.4090	25.9570	0.7627	26.7197	6.9445	0.7010	7.6456		35,001.8605	35,001.8605	1.5685		35,034.8000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	1,469.57	1,596.68	1353.61	5,255,169	5,255,169
Condo/Townhouse High Rise	573.33	622.92	528.09	2,050,223	2,050,223
Condo/Townhouse High Rise	1,100.53	1,195.72	1013.69	3,935,485	3,935,485
User Defined Retail	0.00	0.00	0.00		
Total	3,143.43	3,415.32	2,895.39	11,240,877	11,240,877

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
User Defined Retail	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381852	0.086091	0.200079	0.163903	0.085749	0.010610	0.015453	0.038109	0.001550	0.000665	0.009389	0.000881	0.005669

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
NaturalGas Unmitigated	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse High Rise	3146.42	0.0339	0.2900	0.1234	1.8500e-003		0.0234	0.0234		0.0234	0.0234		370.1673	370.1673	7.0900e-003	6.7900e-003	372.4201
Condo/Townhouse High Rise	4201.51	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313		494.2952	494.2952	9.4700e-003	9.0600e-003	497.3034
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse High Rise	1639.15	0.0177	0.1511	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.8416	192.8416	3.7000e-003	3.5400e-003	194.0152
Total		**0.0969**	**0.8282**	**0.3524**	**5.2800e-003**		**0.0670**	**0.0670**		**0.0670**	**0.0670**		**1,057.3041**	**1,057.3041**	**0.0203**	**0.0194**	**1,063.7387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse High Rise	1.63915	0.0177	0.1511	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.8416	192.8416	3.7000e-003	3.5400e-003	194.0152
Condo/Townhouse High Rise	3.14642	0.0339	0.2900	0.1234	1.8500e-003		0.0234	0.0234		0.0234	0.0234		370.1673	370.1673	7.0900e-003	6.7900e-003	372.4201
Condo/Townhouse High Rise	4.20151	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313		494.2952	494.2952	9.4700e-003	9.0600e-003	497.3034
Total		**0.0969**	**0.8282**	**0.3524**	**5.2800e-003**		**0.0670**	**0.0670**		**0.0670**	**0.0670**		**1,057.3041**	**1,057.3041**	**0.0203**	**0.0194**	**1,063.7387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Unmitigated	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.9471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.7174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,189.9952	29.7124	2,697.8389	1.0538		379.0300	379.0300		379.0189	379.0189	39,741.3467	16,666.9412	56,408.2879	36.6747	3.1260	58,147.5025
Landscaping	1.2376	0.4633	39.7495	2.0800e-003		0.2158	0.2158		0.2158	0.2158		70.8595	70.8595	0.0711		72.3530
Total	**2,215.8973**	**30.1757**	**2,737.5884**	**1.0559**		**379.2458**	**379.2458**		**379.2347**	**379.2347**	**39,741.3467**	**16,737.8006**	**56,479.1473**	**36.7458**	**3.1260**	**58,219.8555**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.9471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.7174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,189.9952	29.7124	2,697.8389	1.0538		379.0300	379.0300		379.0189	379.0189	39,741.3467	16,666.9412	56,408.2879	36.6747	3.1260	58,147.5025
Landscaping	1.2376	0.4633	39.7495	2.0800e-003		0.2158	0.2158		0.2158	0.2158		70.8595	70.8595	0.0711		72.3530
Total	**2,215.8973**	**30.1757**	**2,737.5884**	**1.0559**		**379.2458**	**379.2458**		**379.2347**	**379.2347**	**39,741.3467**	**16,737.8006**	**56,479.1473**	**36.7458**	**3.1260**	**58,219.8555**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Village At Squaw Valley - 20 Percent of Total Construction

Mountain Counties Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse High Rise	223.00	Dwelling Unit	5.62	362,676.00	0
Condo/Townhouse High Rise	87.00	Dwelling Unit	1.20	145,100.00	0
Condo/Townhouse High Rise	167.00	Dwelling Unit	4.69	252,875.00	0
User Defined Retail	0.00	User Defined Unit	0.00	67,264.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	8
Climate Zone	14			**Operational Year**	2017
Utility Company	Sierra Pacific Resources				
CO2 Intensity (lb/MWhr)	1328.16	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land Uses represent 20 percent of the Project. Building square footages and acreages derived from Appendix H.

Construction Phase - Construction Schedule taken from DEIR.

Grading - Acres of grading calculated by CalEEMod

Demolition - 91,522 sf x 20%

Trips and VMT - Maximum Daily Workers was assumed to be 136 workers per day.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	314.00
tblConstructionPhase	NumDays	300.00	314.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	30.00	144.00
tblConstructionPhase	NumDays	20.00	144.00
tblConstructionPhase	NumDays	10.00	144.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	1/2/2018	12/31/2016
tblConstructionPhase	PhaseEndDate	6/17/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseEndDate	4/1/2017	10/15/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2017	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblConstructionPhase	PhaseStartDate	10/16/2016	5/1/2016
tblGrading	AcresOfGrading	360.00	75.00
tblLandUse	LandUseSquareFeet	223,000.00	362,676.00
tblLandUse	LandUseSquareFeet	87,000.00	145,100.00
tblLandUse	LandUseSquareFeet	167,000.00	252,875.00
tblLandUse	LandUseSquareFeet	0.00	67,264.00

tblLandUse	LotAcreage	3.48	5.62
tblLandUse	LotAcreage	1.36	1.20
tblLandUse	LotAcreage	2.61	4.69
tblLandUse	Population	638.00	0.00
tblLandUse	Population	249.00	0.00
tblLandUse	Population	478.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	365.00	136.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	105.6106	237.3039	203.0437	0.2463	28.6857	12.3704	41.0561	14.3665	11.4623	25.8289	0.0000	24,456.0086	24,456.0086	5.8929	0.0000	24,579.7588
Total	**105.6106**	**237.3039**	**203.0437**	**0.2463**	**28.6857**	**12.3704**	**41.0561**	**14.3665**	**11.4623**	**25.8289**	**0.0000**	**24,456.0086**	**24,456.0086**	**5.8929**	**0.0000**	**24,579.7588**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	105.6106	237.3039	203.0437	0.2463	28.6857	12.3704	41.0561	14.3665	11.4623	25.8289	0.0000	24,456.0085	24,456.0085	5.8929	0.0000	24,579.7587
Total	**105.6106**	**237.3039**	**203.0437**	**0.2463**	**28.6857**	**12.3704**	**41.0561**	**14.3665**	**11.4623**	**25.8289**	**0.0000**	**24,456.0085**	**24,456.0085**	**5.8929**	**0.0000**	**24,579.7587**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Energy	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
Mobile	23.4089	65.1638	262.8127	0.3814	25.9570	0.7661	26.7231	6.9445	0.7042	7.6487		32,724.6175	32,724.6175	1.5697		32,757.5817
Total	**2,239.4031**	**96.1678**	**3,000.7535**	**1.4426**	**25.9570**	**380.0789**	**406.0359**	**6.9445**	**380.0059**	**386.9504**	**39,741.3467**	**50,519.7223**	**90,261.0689**	**38.3358**	**3.1453**	**92,041.1759**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Energy	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
Mobile	23.4089	65.1638	262.8127	0.3814	25.9570	0.7661	26.7231	6.9445	0.7042	7.6487		32,724.6175	32,724.6175	1.5697		32,757.5817
Total	**2,239.4031**	**96.1678**	**3,000.7535**	**1.4426**	**25.9570**	**380.0789**	**406.0359**	**6.9445**	**380.0059**	**386.9504**	**39,741.3467**	**50,519.7223**	**90,261.0689**	**38.3358**	**3.1453**	**92,041.1759**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2016	12/31/2016	6	314	
2	Architectural Coating	Architectural Coating	1/1/2016	12/31/2016	6	314	
3	Demolition	Demolition	5/1/2016	10/15/2016	6	144	
4	Site Preparation	Site Preparation	5/1/2016	10/15/2016	6	144	
5	Grading	Grading	5/1/2016	10/15/2016	6	144	
6	Paving	Paving	5/1/2016	10/15/2016	6	144	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 1,540,318; Residential Outdoor: 513,439; Non-Residential Indoor: 100,896; Non-Residential Outdoor: 33,632 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	83.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	136.00	62.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	73.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.2 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2911	5.8347	15.9789	0.0135	0.3717	0.0972	0.4689	0.1060	0.0893	0.1953		1,333.1315	1,333.1315	0.0118		1,333.3790
Worker	0.9017	1.4426	12.9249	0.0194	1.7371	0.0151	1.7522	0.4607	0.0138	0.4744		1,592.3987	1,592.3987	0.1049		1,594.6015
Total	**2.1929**	**7.2773**	**28.9038**	**0.0329**	**2.1089**	**0.1123**	**2.2211**	**0.5667**	**0.1030**	**0.6697**		**2,925.5302**	**2,925.5302**	**0.1167**		**2,927.9805**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**	**0.0000**	**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

3.2 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2911	5.8347	15.9789	0.0135	0.3717	0.0972	0.4689	0.1060	0.0893	0.1953		1,333.1315	1,333.1315	0.0118		1,333.3790
Worker	0.9017	1.4426	12.9249	0.0194	1.7371	0.0151	1.7522	0.4607	0.0138	0.4744		1,592.3987	1,592.3987	0.1049		1,594.6015
Total	**2.1929**	**7.2773**	**28.9038**	**0.0329**	**2.1089**	**0.1123**	**2.2211**	**0.5667**	**0.1030**	**0.6697**		**2,925.5302**	**2,925.5302**	**0.1167**		**2,927.9805**

3.3 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	80.7540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**81.1225**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.3 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4840	0.7743	6.9376	0.0104	0.9324	8.1100e-003	0.9405	0.2473	7.3900e-003	0.2547		854.7434	854.7434	0.0563		855.9258
Total	**0.4840**	**0.7743**	**6.9376**	**0.0104**	**0.9324**	**8.1100e-003**	**0.9405**	**0.2473**	**7.3900e-003**	**0.2547**		**854.7434**	**854.7434**	**0.0563**		**855.9258**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	80.7540					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**81.1225**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.3 Architectural Coating - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4840	0.7743	6.9376	0.0104	0.9324	8.1100e-003	0.9405	0.2473	7.3900e-003	0.2547		854.7434	854.7434	0.0563		855.9258
Total	**0.4840**	**0.7743**	**6.9376**	**0.0104**	**0.9324**	**8.1100e-003**	**0.9405**	**0.2473**	**7.3900e-003**	**0.2547**		**854.7434**	**854.7434**	**0.0563**		**855.9258**

3.4 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1251	0.0000	0.1251	0.0190	0.0000	0.0190			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.1251**	**2.2921**	**2.4173**	**0.0190**	**2.1365**	**2.1555**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.4 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0202	0.1646	0.2586	4.3000e-004	0.0100	2.4500e-003	0.0125	2.7500e-003	2.2500e-003	5.0000e-003		43.1544	43.1544	3.2000e-004		43.1611
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0995	0.1591	1.4255	2.1400e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		175.6322	175.6322	0.0116		175.8752
Total	**0.1197**	**0.3237**	**1.6841**	**2.5700e-003**	**0.2016**	**4.1200e-003**	**0.2057**	**0.0536**	**3.7700e-003**	**0.0573**		**218.7866**	**218.7866**	**0.0119**		**219.0363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1251	0.0000	0.1251	0.0190	0.0000	0.0190			0.0000			0.0000
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**	**0.1251**	**2.2921**	**2.4173**	**0.0190**	**2.1365**	**2.1555**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.4 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0202	0.1646	0.2586	4.3000e-004	0.0100	2.4500e-003	0.0125	2.7500e-003	2.2500e-003	5.0000e-003		43.1544	43.1544	3.2000e-004		43.1611
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0995	0.1591	1.4255	2.1400e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		175.6322	175.6322	0.0116		175.8752
Total	**0.1197**	**0.3237**	**1.6841**	**2.5700e-003**	**0.2016**	**4.1200e-003**	**0.2057**	**0.0536**	**3.7700e-003**	**0.0573**		**218.7866**	**218.7866**	**0.0119**		**219.0363**

3.5 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.5 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1194	0.1909	1.7107	2.5700e-003	0.2299	2.0000e-003	0.2319	0.0610	1.8200e-003	0.0628		210.7586	210.7586	0.0139		211.0502
Total	**0.1194**	**0.1909**	**1.7107**	**2.5700e-003**	**0.2299**	**2.0000e-003**	**0.2319**	**0.0610**	**1.8200e-003**	**0.0628**		**210.7586**	**210.7586**	**0.0139**		**211.0502**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.5 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1194	0.1909	1.7107	2.5700e-003	0.2299	2.0000e-003	0.2319	0.0610	1.8200e-003	0.0628		210.7586	210.7586	0.0139		211.0502
Total	**0.1194**	**0.1909**	**1.7107**	**2.5700e-003**	**0.2299**	**2.0000e-003**	**0.2319**	**0.0610**	**1.8200e-003**	**0.0628**		**210.7586**	**210.7586**	**0.0139**		**211.0502**

3.6 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5744	0.0000	6.5744	3.3699	0.0000	3.3699			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975		6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**6.5744**	**3.5842**	**10.1587**	**3.3699**	**3.2975**	**6.6674**		**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.6 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1326	0.2122	1.9007	2.8600e-003	0.2555	2.2200e-003	0.2577	0.0678	2.0200e-003	0.0698		234.1763	234.1763	0.0154		234.5002
Total	**0.1326**	**0.2122**	**1.9007**	**2.8600e-003**	**0.2555**	**2.2200e-003**	**0.2577**	**0.0678**	**2.0200e-003**	**0.0698**		**234.1763**	**234.1763**	**0.0154**		**234.5002**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5744	0.0000	6.5744	3.3699	0.0000	3.3699			0.0000			0.0000
Off-Road	6.4795	74.8137	49.1374	0.0617		3.5842	3.5842		3.2975	3.2975	0.0000	6,414.9807	6,414.9807	1.9350		6,455.6154
Total	**6.4795**	**74.8137**	**49.1374**	**0.0617**	**6.5744**	**3.5842**	**10.1587**	**3.3699**	**3.2975**	**6.6674**	**0.0000**	**6,414.9807**	**6,414.9807**	**1.9350**		**6,455.6154**

3.6 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1326	0.2122	1.9007	2.8600e-003	0.2555	2.2200e-003	0.2577	0.0678	2.0200e-003	0.0698		234.1763	234.1763	0.0154		234.5002
Total	**0.1326**	**0.2122**	**1.9007**	**2.8600e-003**	**0.2555**	**2.2200e-003**	**0.2577**	**0.0678**	**2.0200e-003**	**0.0698**		**234.1763**	**234.1763**	**0.0154**		**234.5002**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987		2,331.0495
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0898**	**22.3859**	**14.8176**	**0.0223**		**1.2610**	**1.2610**		**1.1601**	**1.1601**		**2,316.3767**	**2,316.3767**	**0.6987**		**2,331.0495**

3.7 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0995	0.1591	1.4255	2.1400e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		175.6322	175.6322	0.0116		175.8752
Total	**0.0995**	**0.1591**	**1.4255**	**2.1400e-003**	**0.1916**	**1.6700e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**175.6322**	**175.6322**	**0.0116**		**175.8752**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0898**	**22.3859**	**14.8176**	**0.0223**		**1.2610**	**1.2610**		**1.1601**	**1.1601**	**0.0000**	**2,316.3767**	**2,316.3767**	**0.6987**		**2,331.0495**

3.7 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0995	0.1591	1.4255	2.1400e-003	0.1916	1.6700e-003	0.1933	0.0508	1.5200e-003	0.0523		175.6322	175.6322	0.0116		175.8752
Total	**0.0995**	**0.1591**	**1.4255**	**2.1400e-003**	**0.1916**	**1.6700e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**175.6322**	**175.6322**	**0.0116**		**175.8752**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	23.4089	65.1638	262.8127	0.3814	25.9570	0.7661	26.7231	6.9445	0.7042	7.6487		32,724.6175	32,724.6175	1.5697		32,757.5817
Unmitigated	23.4089	65.1638	262.8127	0.3814	25.9570	0.7661	26.7231	6.9445	0.7042	7.6487		32,724.6175	32,724.6175	1.5697		32,757.5817

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	1,469.57	1,596.68	1353.61	5,255,169	5,255,169
Condo/Townhouse High Rise	573.33	622.92	528.09	2,050,223	2,050,223
Condo/Townhouse High Rise	1,100.53	1,195.72	1013.69	3,935,485	3,935,485
User Defined Retail	0.00	0.00	0.00		
Total	3,143.43	3,415.32	2,895.39	11,240,877	11,240,877

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
Condo/Townhouse High Rise	16.80	7.10	7.90	37.30	20.70	42.00	86	11	3
User Defined Retail	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.381852	0.086091	0.200079	0.163903	0.085749	0.010610	0.015453	0.038109	0.001550	0.000665	0.009389	0.000881	0.005669

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387
NaturalGas Unmitigated	0.0969	0.8282	0.3524	5.2900e-003		0.0670	0.0670		0.0670	0.0670		1,057.3041	1,057.3041	0.0203	0.0194	1,063.7387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse High Rise	1639.15	0.0177	0.1511	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.8416	192.8416	3.7000e-003	3.5400e-003	194.0152
Condo/Townhouse High Rise	3146.42	0.0339	0.2900	0.1234	1.8500e-003		0.0234	0.0234		0.0234	0.0234		370.1673	370.1673	7.0900e-003	6.7900e-003	372.4201
Condo/Townhouse High Rise	4201.51	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313		494.2952	494.2952	9.4700e-003	9.0600e-003	497.3034
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0969**	**0.8282**	**0.3524**	**5.2800e-003**		**0.0670**	**0.0670**		**0.0670**	**0.0670**		**1,057.3041**	**1,057.3041**	**0.0203**	**0.0194**	**1,063.7387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Retail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse High Rise	1.63915	0.0177	0.1511	0.0643	9.6000e-004		0.0122	0.0122		0.0122	0.0122		192.8416	192.8416	3.7000e-003	3.5400e-003	194.0152
Condo/Townhouse High Rise	3.14642	0.0339	0.2900	0.1234	1.8500e-003		0.0234	0.0234		0.0234	0.0234		370.1673	370.1673	7.0900e-003	6.7900e-003	372.4201
Condo/Townhouse High Rise	4.20151	0.0453	0.3872	0.1648	2.4700e-003		0.0313	0.0313		0.0313	0.0313		494.2952	494.2952	9.4700e-003	9.0600e-003	497.3034
Total		**0.0969**	**0.8282**	**0.3524**	**5.2800e-003**		**0.0670**	**0.0670**		**0.0670**	**0.0670**		**1,057.3041**	**1,057.3041**	**0.0203**	**0.0194**	**1,063.7387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555
Unmitigated	2,215.8973	30.1757	2,737.5884	1.0559		379.2458	379.2458		379.2347	379.2347	39,741.3467	16,737.8006	56,479.1473	36.7458	3.1260	58,219.8555

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.9471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.7174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,189.9952	29.7124	2,697.8389	1.0538		379.0300	379.0300		379.0189	379.0189	39,741.3467	16,666.9412	56,408.2879	36.6747	3.1260	58,147.5025
Landscaping	1.2376	0.4633	39.7495	2.0800e-003		0.2158	0.2158		0.2158	0.2158		70.8595	70.8595	0.0711		72.3530
Total	**2,215.8973**	**30.1757**	**2,737.5884**	**1.0559**		**379.2458**	**379.2458**		**379.2347**	**379.2347**	**39,741.3467**	**16,737.8006**	**56,479.1473**	**36.7458**	**3.1260**	**58,219.8555**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.9471					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.7174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2,189.9952	29.7124	2,697.8389	1.0538		379.0300	379.0300		379.0189	379.0189	39,741.3467	16,666.9412	56,408.2879	36.6747	3.1260	58,147.5025
Landscaping	1.2376	0.4633	39.7495	2.0800e-003		0.2158	0.2158		0.2158	0.2158		70.8595	70.8595	0.0711		72.3530
Total	**2,215.8973**	**30.1757**	**2,737.5884**	**1.0559**		**379.2458**	**379.2458**		**379.2347**	**379.2347**	**39,741.3467**	**16,737.8006**	**56,479.1473**	**36.7458**	**3.1260**	**58,219.8555**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

ATTACHMENT 2

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

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Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

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

EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES **B.S. CONSERVATION BIOLOGY & ENVIRONMENTAL SCIENCES** *JUNE 2014*

PROJECT EXPERIENCE

SOIL WATER AIR PROTECTION ENTERPRISE ***SANTA MONICA, CA***

AIR QUALITY SPECIALIST

SENIOR ANALYST: CEQA ANALYSIS & MODELING

- Calculated roadway, stationary source, and cumulative impacts for risk and hazard analyses at proposed land use projects.
- Quantified criteria air pollutant and greenhouse gas emissions released during construction and operational activities of proposed land use projects using CalEEMod and EMFAC2011 emission factors.
- Utilized AERSCREEN, a screening dispersion model, to determine the ambient air concentrations at sensitive receptor locations.
- Organized presentations containing figures and tables comparing results of particulate matter analyses to CEQA thresholds.
- Prepared reports that discuss results of the health risk analyses conducted for several land use redevelopment projects.

SENIOR ANALYST: GREENHOUSE GAS MODELING AND DETERMINATION OF SIGNIFICANCE

- Quantified greenhouse gas (GHG) emissions of a "business as usual" scenario for proposed land use projects using CalEEMod.
- Determined compliance of proposed projects with AB 32 GHG reduction targets, with measures described in CARB's Scoping Plan for each land use sector, and with GHG significance thresholds recommended by various Air Quality Management Districts in California.
- Produced tables and figures that compare the results of the GHG analyses to applicable CEQA thresholds and reduction targets.

PROJECT MANAGER: OFF-GASSING OF FORMALDEHYDE FROM FLOORING PRODUCTS

- Determined the appropriate standard test methods to effectively measure formaldehyde emissions from flooring products.
- Compiled and analyzed laboratory testing data. Produced tables, charts, and graphs to exhibit emission levels.
- Compared finalized testing data to Proposition 65 No Significant Risk Level (NSRL) and to CARB's Phase 2 Standard.
- Prepared a final analytical report and organized supporting data for use as Expert testimony in environmental litigation.
- Participated in meetings with clients to discuss project strategy and identify solutions to achieve short and long term goals.

PROJECT ANALYST: EXPOSURE ASSESSMENT OF CONTAMINANTS EMITTED BY INCINERATOR

- Reviewed and organized sampling data, and determined the maximum levels of arsenic, dioxin, and lead in soil samples.
- Determined cumulative and hourly particulate deposition of incinerator and modeled particle dispersion locations using GIS and AERMOD.
- Conducted risk assessment using guidance set forth by the Office of Environmental Health Hazard Assessment (OEHHA).
- Utilized LeadSpread8 to evaluate exposure, and the potential adverse health effects from exposure, to lead in the environment.
- Compared final results of assessment to the Environmental Protection Agency's (EPA) Regional Screening Levels (RSLs).

ACCOMPLISHMENTS

- **Recipient**, Bruins Advantage Scholarship, University of California, Los Angeles ***SEPT 2010 – JUNE 2014***
- **Academic Honoree,** Dean's List, University of California, Los Angeles ***SEPT 2013 – JUNE 2014***
- **Academic Wellness Director**, UCLA Undergraduate Students Associated Council ***SEPT 2013 – JUNE 2014***
- **Student Groups Support Committee Member**, UCLA Undergraduate Students Associated Council ***SEPT 2012 – JUNE 2013***

EXHIBIT 2

Terrell Watt Planning Consultants
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Terrywatt@att.net
415-377-6280

July 17, 2015

Richard Drury
Lozeau/Drury LLP
410 12th Street, Suite 250
Oakland, CA 94607

Dear Mr. Drury,

Subject: Review of the DEIR for Proposed Village at Squaw Valley – Growth Inducing Impacts

At your request I have reviewed all of the relevant information on the proposed Village of Squaw Valley project, including the pertinent sections of the Draft Specific Plan, Draft EIR, relevant appendices including, but not limited to, Appendices, C, D and K, and Reference Materials including the Economic Impact and Urban Decay Analysis prepared for the proposed project. My conclusion is that the DEIR provides an incomplete and flawed analysis of the impacts related to population growth induced by the proposed project and as a result fails to adequately analyze related impacts to housing and a wide range of public services and facilities including but not limited to affordable workforce housing, emergency services, water and schools. The scale of this project and its location require a thorough analysis of the growth inducing impacts generated by the proposed project in a recirculated environmental document.

I. The DEIR Provides an Incomplete and Flawed Analysis of the Impacts Related to Population Growth Induced by the Proposed Project

The DEIR describes the proposed project as "a world-class, recreation-based, <u>all-season</u>, mountain-resort community." Emphasis added. DEIR at page 2. Its goals include providing "a mix of housing types for all segments of the population to contribute to a dynamic year-round community" and to "create a broad range of recreational opportunities to attract vacation-oriented visitors, <u>both summer and winter</u>, to the area to develop a viable year-round community" to "ensure that Squaw Valley is developed into a top quality, <u>year-round</u>, destination resort." Emphasis added. DEIR at page 6. The proposed project is also described by the DEIR at "relatively large and is intended to generate substantial economic activity." DEIR 18-60.

The Official site of the proponents of the Village at Squaw Valley touts the projects benefits as follows:

- More than 500 New Full Time Jobs during operations

- Over $20 million in new annual tax revenues[1]

In addition, the Economic Impact and Urban Decay analysis prepared by Goodwin Consulting Group (GCG) for the proposed project estimates an additional $116 million in net supportable sales as a result of the project.

While touting the proposed project's significant economic benefits and job creation, the DEIR shrugs off all but the potentially significant impacts associated with the increased demand for employee/workforce housing. In so doing, the DEIR fails to adequately disclose and analyze the full growth inducing impacts of the proposed project including impacts related to both housing demand by the full "year-round" workforce as well as commercial and job (and related housing demand) growth induced by the project. The document's flaws stem primarily from the lack of any recognition of the substantial indirect growth that would be stimulated by the project including additional support commercial space and associated new employee housing demand as well as associated need for additional public services and facilities. In addition, growth inducing impacts are underestimated as a result of assuming the new workforce will mainly be transient and not require full time housing and as a result the range of services required by households residing in an area full time (e.g., schools). While growth inducing impacts per se may not be considered "adverse," the "ripple effect" impacts such as increased affordable workforce housing demand, traffic, demand for public services such as schools, all are considered adverse if not addressed.

I. Inconsistent Description of the Project

It should be noted here that the inconsistency in the project description concerning whether the proposed project is "year-round" and "all season" as described in the Project Description (see e.g., DEIR at pages 2 and 6) as opposed to "seasonal" and generating only a "transient" population as described in numerous impact analyses sections (see e.g., Section 5, Population, Employment, and Housing), renders the analyses of housing and growth inducing impacts inadequate from the start. A revised and recirculated environmental document must include a stable project description with respect to this aspect of the project as it is a critical assumption for analysis of most project related impacts, including but not limited to housing, growth inducement, traffic, public services and facilities, among others.

If the project only generates a temporary, seasonal or transient population, the outcome of the growth inducing and housing analyses are much different than if the population is year round. The latter appears to be the correct answer given the official Project Description sections characterization of the project as year round and all season. If the project is indeed year-round, why wouldn't there be more year round employees? If a greater number of employees are in fact year round, then the demand for more permanent and family style housing. Starting with a stable project description, revised analyses should be prepared.

Finally, Section 5 includes a description of the methodology for assumptions concerning the combined visitor and employee population stating in pertinent part "there is no single methodology for an accurate calculation" of visitor and employee population. The section continues on to explain that the

[1] http://www.thevillageatsquaw.com/project/benefits/

Water Supply Analysis, Appendix C, was used to derive these assumptions. Reliance on the Water Supply Analysis, that in turn relies on the assumption that population will be transient and/or seasonal, and no analysis of additional induced population growth, results in an underestimation of project related impacts associated with housing, project population and induced growth and therefore demand for affordable workforce housing and a myriad of other services. The WSA should also be revised once there is a stable project description and assumptions used in other impact analyses adjusted accordingly.

II. The DEIR Asserts without Complete Analysis or Evidence that Growth Inducing Impacts Are Insignificant

The DEIR concludes that the project would not indirectly induce growth:

> The project would not indirectly induce growth, as it would be developed in locations where there is already access to urban services. DEIR at page 5-12

Impact 5.2 reads:

> Induce substantial population growth and housing demand during operation. Development of the proposed project would result in construction of hotels, condo hotels, fractional ownership units, and timeshare units. The project would also include employment opportunities that would require a population increase to meet business demands. However, the types of employment available within he Specific Plan would be primarily seasonal and would not be expected to result in substantial long-term population growth. Thus, the project would have a less-than-significant impact related to population growth and housing demand during operation.

The DEIR finds this impact less than significant and therefore concludes that no mitigation is necessary.

The DEIR acknowledges "the population increase caused by, or attracted to, a new project may result in additional demands for housing, goods and services," but fails to analyze this further and simply dismisses the potential impacts. DEIR at page 5-12. Specifically, no analysis is provided to support the conclusion that induced growth would be insignificant. It appears based on the discussion in the DEIR that this conclusion is based in part in reliance on the assertion that "the project is designed such that the economic activity generated by visitors would be largely contained within the commercial components of the project." Id.[2] While the employee housing area, East Parcel, would include 20,000 square feet of non-residential square feet, only 5,000 of that is for a small grocery store with the remainder for a shipping/receiving (DEIR Appendix D at page 3). Our analysis below indicates this support commercial falls short of the likely demand and that the project site(s) are neither planned nor capable of fully containing demand for additional services. It is frankly illogical that the recreational, service and operational and other needs of this proposed project would be fully contained on site, or

[2] The DEIR includes this statement as well: "Because the economic activity generated by the development is intended to be contained within the commercial components of the project; this would limit the potential for induced growth from economic activity, as defined by CEQA." DEIR at page 18-60. This assertion is belied by the sheer amount of increased economic stimulation the project will generate based on our analysis of the project.

that visitors and employees would seek to meet all of their needs on site. Thus, growth inevitably will be induced and the DEIR must include an analysis of that growth and all of its associated "ripple" effects.

The DEIR further dismisses the need to evaluate induced growth by suggesting that analysis will occur in the future as actual projects (induced growth related) are proposed; thereby deferring analysis in this DEIR. Specifically, Section 18.4 of the DEIR, the discussion of growth inducing impacts of the proposed project, again acknowledges the potential for impacts if "substantial new permanent or short-term employment opportunities are created," but then concludes that any projects associated with accommodating that new growth <u>would be the subject of separate discretionary processes and environmental review:</u>

> "The decision of whether impacts do occur, their extent, and the ability to mitigate them is appropriately left to consideration by the agency responsible for approving such projects at such times as complete applications are submitted." DEIR at page 18-59.

Through a series of flawed assumptions and excuses, this DEIR abdicates the responsibility to fully disclose and analyze both affordable workforce housing related impacts and induced growth. As a result the DEIR fails to fully analyze and mitigate the environmental consequences of the project.

III. Analysis of Growth Inducement Required by CEQA

The California Environmental Quality Act requires that a public agency accurately estimate population growth and then analyze the consequences of that growth. In *Napa Citizens for Honest Government*, 91 Cal.App.4th 342, the Court of Appeal set out the general framework for considering population-related impacts. An EIR:

> Should, at a minimum, identify the number and type of housing units that persons working within the [p]roject area can be anticipated to require, and identify the probably location of those units. The [EIR] also should consider whether the identified communities have sufficient housing units and sufficient services to accommodate the anticipated increase in population. If it is concluded that the communities lack sufficient units and/or services, the [EIR] should identify that fact and explain that action will need to be taken. . . .

Id. At 370. One the EIR determines the action needed to provide sufficient housing and/or services, CEQA then requires it to examine the environmental consequences of such action. For example, in Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (2007) 40 Cal.4th 412, 438-47, the California Supreme Court held that where a new development would need an increased water supply, CEQA requires the agency to analyze the environmental impacts of providing that water supply.

A complete analysis of population growth requires two steps:

1. An accurate estimate of the population growth the project would both directly and indirectly cause, including, but not limited to, an estimate of the number of employees that the project would require and whether those employees would be new to the region; and

2. The environmental impacts associated with serving that estimated new population including but not limited to housing and public services and facilities (e.g., water, emergency, schools, etc.).

The EIR must also consider the growth a project will indirectly induce, such as through stimulation of the local economy, or by providing new infrastructure that supports new construction.

The DEIR includes a section on growth inducement; Section 5 Population, Employment, and Housing. The document acknowledges that projects can induce growth both directly and indirectly. DEIR at page 5-9. Assumptions include that the project would generate a transient population and the WSA assumptions were used to estimate population. NEED TO STILL LOOK AT OTHER CEQA SECTIONS

The DEIR fails with respect to both steps of this analytic process. It significantly underestimates the new population the proposed project would bring to the area, and it fails to thoroughly analyze the environmental impacts of that new population. Specifically, as described in detail below, the DEIR underestimates the population growth associated with the proposed project.

IV. The EIR Fails to Consider and Analyze Full Job Generation by the Proposed Project

The first step in assessing the proposed project's population growth is to calculate the number of new jobs the proposed project would create both directly attributable to the project and indirectly or induced by the project. The DEIR attempts to estimate employees, but includes only jobs and therefore employment population, created directly by the project on site and assuming the project is seasonal rather fully occupied year round.

According to the DEIR "the project is expected to generate an additional 574 new full-time equivalent (FTE) employees annually. Based on the County's requirements, the project would be required to ensure that housing is provided for 50 percent of its FTE employees, which, according to the DEIR's analysis, could be up to 287 employees at plan area buildout. [3] " DEIR at 3-11; see also WSA, Appendix C. As discussed above, the DEIR assumes that the project would generate only "transient population rather than accommodate new full-time residents in the Valley because of the manner in which housing would be provided (fractional ownership, seasonal employee housing, and daily basis)." DEIR at page 5-10.

The DEIR's Economic Impact and Urban Decay Study and DEIR acknowledge that the proposed project would significantly expand the area's economic base and specifically would add new net supportable sales totaling an estimated $116 million. That significant expansion would inevitably lead to more economic activity than is "contained" or accommodated by the proposed project on-site. Project employees and visitors would have more money to spend, the project itself would require secondary support services and those activities would stimulate additional development in the area. All of this secondary activity and growth would in turn cause environmental effects. These induced growth

[3] DEIR at 3-11 to 12: With the removal of these [99 staff] existing employee housing facilities, the project would need to provide housing for as many as 386 employees at plan area buildout.

impacts are overlooked entirely. The DEIR only attempts to estimate the employees directly associated with the proposed project thereby underestimating total employment and job growth that would be created by the project.

Moreover, based on the same underlying and flawed assumptions and omissions, the DEIR underestimates the demand for affordable workforce/employee housing generated both directly by the proposed project as well as project related induced growth. Compounding the underestimation is that the DEIR relies on County requirements to house employees (50% of full time employee equivalent, FTE), which is not necessarily sufficient to reduce housing related impacts to less than significant. If in fact this "year-round" project generates year round demand for employees and family style permanent rather than dorm style transient employee housing, the impact remains significant and unmitigated. Additional "induced employment growth" could vastly outstrip both the employee housing proposed by the project as well as create demand for other services beyond those provided for in the project (East Parcel) area. It bears repeating that if the visitor and employee plus induced growth assumptions are low, the analysis of traffic, public services , air quality, among other impacts associated with the project and its secondary impacts are also underestimated.

V. The Proposed Project Would Likely Generate Significant Induced Growth in the Area Not Disclosed or Analyzed in the DEIR

The DEIR fails to analyze and disclose likely significant impacts associated with inducing growth in the region. This is surprising because all of the information necessary to complete an adequate analysis of economic and therefore commercial space and new additional job growth stimulated by the proposed project can be found in the GCG Economic Impact and Urban Decay Analysis. The GCG Economic Impact and Urban Decay Study focuses almost entirely on why the project will not result in urban decay impacts and completely overlooks the question of how much secondary or indirect growth the proposed project will induce by significantly adding to the economy.

According to the project sponsor's consultants (GCG) information contained in the County's project documents, the visitors generated by the project will bring with them approximately $116 million in net supportable sales (grocery, hospitality, and retail), thereby indicating that the proposed project will have a significant "multiplier effect" on the area economy. In short, the new population drawn to the area by the proposed project will bring additional spending power for goods and services. While some of that spending power will flow into existing establishments, much of it will create new demand or "induced growth" in commercial establishments. Our preliminary analysis using IMPLAN[4] and project information from the GCG Economic Impact and Urban Decay Study and DEIR, shows that meeting all this additional demand generated by the proposed project for goods and services would require an additional 1050 – 1300 workers; most of them in generally low paid service jobs. Based on the

[4] IMPLAN, an econometric input output model and the industry standard for nexus studies and local economic analyses, was used for assessing potential additional employment based on the project description and information provided in the Economic Impact and Urban Decay study by CGC and DEIR. See results of three scenarios attached hereto as attachment 1. Differences in scenario stem from the range of possible food service elements of the proposed project.

proposed project's own sales per square foot, we estimate that meeting the excess demand will require about 360,000 square feet of additional new structures, not including housing or space to accommodate additional public services. The DEIR asserts "that the economic activity generated by visitors would be largely contained within the commercial components of the project," but this seems unlikely given that the project is intended to attract a diverse clientele from around the region who are likely to choose to spend their dollars throughout the area in existing as well as "new" establishments to meet that demand. DEIR at 5-12. A revised and recirculated environmental document must address the full breath of growth inducing impacts. This omission renders the DEIR inadequate.

Compounding this flaw is the assumption that the proposed project will not generate full time year round employees in need of year round permanent affordable housing. Again, the County's requirement that only 50% of Full Time Equivalent employees be provided housing does not mean the impacts of housing demand created by the project and induced growth have been fully mitigated. In this case total employee housing demand, including induced growth, significantly exceeds the project proposal for 246 beds in 21 units on the East Parcel as well as the additional housing that may be provided for off-site or through in-lieu fees (See DEIR Appendix D).

VI. Related Environmental Impacts Ignored

The flaws in the DEIR's projections of employment and population growth have a ripple effect that undermines the DEIR's analysis of housing-related and public service and facility-related impacts associated with population growth. Accordingly, there is no substantial evidence so support the DEIR's conclusions that the proposed project would not have a significant growth inducing impacts and that employee/workforce housing impacts are mitigated to less than significant. In addition, the underestimation of total population and employment by the DEIR, means that the analysis of other environmental impacts including but not limited to transportation, public services and facilities, air quality impacts, among others are flawed as well.

Conclusion

For the foregoing reasons, a thorough and adequate growth inducing analysis in a recirculated CEQA document must still be prepared. That revised analysis must resolve fundamental inconsistencies in the description of the project (e.g., year round or seasonal?) as well as provide a complete and adequate analysis of population, housing and employment and the growth inducing impacts of the project.

Terry Watt, AICP

Owner Terrell Watt Planning Consultants

ATTACHMENTS:

Attachment 1: UPLAN Illustrative Scenarios

Attachment 2: Watt Resume

ATTACHMENT 1

Economic Impact Analysis of Induced Growth

V@SV Supportable Demand 1

Sector	Description	Event Value	Jobs	Event Year	Employee Compensation	Proprietor Income
400	Retail - Food and beverage stores	$54,439,640	193	2015	$6,947,669	$600,640
403	Retail - Clothing and clothing accessories stores	$26,368,145	148	2015	$3,000,818	$417,305
502	Limited-service restaurants	$35,626,051	617	2015	$12,526,059	$992,734

Impact Type	Jobs	Labor Income	Value Added	Output
Direct Effect	958	$24,485,226	$40,582,824	$62,891,321
Indirect Effect	103	$4,969,942	$10,492,299	$16,544,000
Induced Effect	142	$6,723,314	$12,240,767	$19,791,216
Impact Type	**Impact Type**	**Impact Type**	**Impact Type**	**Impact Type**

V@SV Supportable Demand 2

Sector	Description	Event Value	Jobs	Event Year	Employee Compensation	Proprietor Income
400	Retail - Food and beverage stores	$54,439,640	193	2015	$6,947,669	$600,640
403	Retail - Clothing and clothing accessories stores	$26,368,145	148	2015	$3,000,818	$417,305
501	Full-service restaurants	$35,626,051	680	2015	$16,516,231	$391

Impact Type	Jobs	Labor Income	Value Added	Output
Direct Effect	1,020	$27,483,055	$37,335,863	$62,891,321
Indirect Effect	116	$5,872,853	$11,820,422	$18,732,778
Induced Effect	161	$7,620,163	$13,875,321	$22,431,896
Total Effect	**1,297**	**$40,976,071**	**$63,031,606**	**$104,055,995**

V@SV Supportable Demand 3

Sector	Description	Event Value	Jobs	Event Year	Employee Compensation	Proprietor Income
400	Retail - Food and beverage stores	$54,439,640	193	2015	$6,947,669	$600,640
403	Retail - Clothing and clothing accessories stores	$26,368,145	148	2015	$3,000,818	$417,305
503	All other food and drinking places	$35,626,051	452	2015	$11,216,649	$2,795

Impact Type	Jobs	Labor Income	Value Added	Output
Direct Effect	792	$22,185,878	$34,046,696	$62,891,321
Indirect Effect	127	$6,295,341	$12,502,106	$19,632,804
Induced Effect	138	$6,504,619	$11,843,554	$19,147,813
Total Effect	**1,057**	**$34,985,837**	**$58,392,357**	**$101,671,938**

Supportable Sales	Current Demand (Leakage)	VSV	All
Grocery / Market	($1,294,167)	$56,589,640	$160,361,551
Limited Retail Group /1	$842,576	$32,041,145	$119,666,372
Restaurant & Drinking Places	($1,426,065)	$45,321,175	$225,259,188
Net Supportable Sales with Future Development			
Grocery / Market	($1,294,167)	54,439,640	130,476,551
Limited Retail Group /1	$842,576	26,368,145	83,962,122
Restaurant & Drinking Places	($1,426,065)	35,626,051	179,166,988
		116,433,836	**393,605,661**

Commercial Square Footage Estimate	Sales $/SF	Projected Space Demand
Grocery / Market	430	126,604
Limited Retail Group /1	250	105,473
Restaurant & Drinking Places	328	108,616
		340,692

ATTACHMENT 2

Terrell Watt, AICP
Terrell Watt Planning Consultants
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Terrell "Terry" Watt, AICP, owns Terrell Watt Planning Consultants. Ms. Watt's firm specializes in planning, regulatory compliance and implementation projects with a focus on regionally-significant land use, conservation and transportation projects that promote sustainable development patterns and practices. Prior to forming her own consulting group, she was the staff planning expert with the environmental and land use law firm Shute, Mihaly & Weinberger. She is an expert in all levels of planning (federal, state and local) and related issues of housing, transportation, open space and conservation, economic and fiscal analysis and environmental compliance, including NEPA and CEQA compliance. Her skills also include facilitation and negotiation, public outreach, project management and negotiation. Terry is a frequent presenter at regional, national and statewide workshops and symposiums on general plans and sustainability best practices and case studies. She holds a Masters Degree in City and Regional Planning from the University of Southern California and a Bachelor's Degree in Urban Studies from Stanford University.

Terry works with a wide variety of clients throughout California including non-profit organizations, government agencies and foundations. She volunteers up to half her professional time on select projects. Recent projects and roles include:

- Management team member/liaison to Governor's Office for the Desert Renewable Energy Conservation Plan (DRECP: http://www.drecp.org/). (2011-). Primary responsibilities include government and stakeholder outreach related to Plan development as well as review and editing of the Draft Plan. The DRECP includes an energy plan, Natural Communities Conservation Plan (NCCP), General Conservation Plan (GCP), Bureau of Land Management Land Use Plan Amendment (LUPA) and related EIR/S. A key component of the plan is the Data Basin Gateway DRECP platform to allow comment, collaboration and improvement of the Plan before it is finalized. This is the first time a joint federal and state planning process has used a platform to improve the public process. See http://drecp.databasin.org

- Planning Consultant to California Attorney General's Office - Environment Section focusing on climate change, CEQA and general plans. (2007- 2010). While working with the Environment Section, assisted with settlements (Stockton General Plan, Pleasanton Housing Element and CEQA litigation); identified locally based best practices for local government planning to address climate change issues; and managed government outreach and consultation on general plans and climate action plans/energy elements/sustainability planning efforts. Post 2010 continue to provide periodic consulting services to the Environment Section related to select cases.

- Measure M-2 Sales Tax and Environmental Mitigation Measure. (2009-). Co-project manager/facilitator of a 30+-member environmental coalition that through a unique partnership with the Orange County Transportation Authority (OCTA) and state and federal wildlife agencies garnered significant funding for programmatic environmental mitigation (conservation land acquisition and stewardship) in Measure M2, Orange County Transportation Sales Tax. In November 2010, the OCTA Board allocated $42 million in early funding for the purchase of open space from willing sellers to mitigate freeway projects. Provide ongoing input to OCTA on the program including a soon to be released DEIR/S for the Orange County Transportation Authority M2 NCCP/HCP by spring 2014. http://www.octa.net/Measure-M/Environmental/Freeway-Mitigation/Overview/

- State Office of Planning and Research (2011 – ongoing). Volunteer advisor/outreach coordinator of the Governor's Office of Planning and Research "listening tour" on potential reforms to realign CEQA with the state's policy priorities of infill and renewable energy. Currently advising OPR on Infill and Renewable Energy Templates as part of the required update of the General Plan Guidelines and CEQA Guidelines updates.

- Marin Countywide General Plan and Environmental Impact Report (2004 to 2007). Project Manager for the award winning Marin Countywide Plan Update and its Environmental Impact Report. The General Plan was among the first to incorporate leading edge sustainability policies and implementation measures, including climate adaptation and energy self sufficiency.

PROFESSIONAL MEMBERSHIPS AND BOARDS

- Lambda Alpha International - Golden Gate Chapter
- American Institute of Certified Planners (AICP)
- American Planning Association (APA)
- Tahoe Fund Founding Board Member
- Founder Council of Infill Builders and Federation
- Member of Agricultural Stewardship Council

AWARDS

- State and National APA Awards for Marin County General Plan
- APA Awards for South Livermore Valley Plans
- Carla Bard Award for Individual Achievement
- Environment Now Award for Measure M Support
- CA State Association of Counties Distinguished Service Award