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August 2, 2016

VIA EMAIL and
HAND DELIVERY on August 3, 2016

Chair Jim Moore and
Planning Commission
Oakland City Hall
One Frank H. Ogawa Plaza, Hearing Room No. 1
Oakland, CA 94612

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Re: Comments on the CEQA Analysis for the W12 Mixed-Use Project (PLN16-133)

Dear Chair Moore, Honorable Members of the Oakland Planning Commission and Ms. Ferracane:

We write on behalf of Oakland Residents for Responsible Development to comment on the City of Oakland's analysis of the W12 Mixed-Use Project ("Project) pursuant to the California Environmental Quality Act ("CEQA Analysis").[1] The Project includes the demolition of existing structures, including the Downtown Oakland Charter School, and the construction of two seven-story buildings with up to 416 residential units, approximately 25,050 square feet of commercial space, and up to 317 on-site parking spaces. The Project is located on two parcels at 301 12th Street and 285 12th Street in Oakland.

[1] Pub. Resources Code §§ 21000 et seq.

The CEQA Analysis evaluates the Project's potential environmental impacts and consistency with the Lake Merritt Station Area Plan, as well as Oakland's 1998 General Plan Land Use and Transportation Element Environmental Impact Report ("LUTE EIR"), the 2010 General Plan Housing Element Update EIR and 2014 Addendum, and the 2011 Central District Urban Renewal Plan Amendments EIR.

We reviewed the CEQA Analysis and applicable plans, and we identified a number of significant deficiencies in the analysis, as well as new or more severe impacts than previously analyzed in the LMSAP EIR. Furthermore, we identified several mitigation measures not previously analyzed that would reduce significant impacts. Specifically, the CEQA Analysis fails to analyze the Project's high levels of site contamination as well as the construction health risks to the surrounding community, which are new or more severe than previously analyzed. Therefore, the City lacks substantial evidence to support the conclusions in its CEQA Analysis and an EIR is required.

We reviewed the CEQA Analysis, LMSAP EIR, and other plans and EIRs with the help of experts Matt Hagemann and Jessie Jaeger of Soil / Water / Air Protection Enterprise ("SWAPE"). Their attached technical comments are submitted in addition to the comments in this letter.[2] Accordingly, they must be addressed and responded to separately. The curricula vitae of these experts are also attached as exhibits to this letter.

I. STATEMENT OF INTEREST

Oakland Residents for Responsible Development ("Oakland Residents") is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential impacts associated with Project development. The association includes Alan Guan, Risi Agbabiaka, Peter Lew, Bridgette Hall, Tanya Pitts, the International Brotherhood of Electrical Workers Local 595, Plumbers and Steamfitters Local 342, Sheet Metal Workers Local 104, Sprinkler Fitters Local 483, and their members and their families who live and/or work in the City of Oakland and Alameda County.

The individual members of Oakland Residents live, work, and raise their families in the City of Oakland. They would be directly affected by the Project's

[2] *See* Letter from Matt Hagemann and Jessie Jaeger, SWAPE, to Laura Horton re: Comments on the W12 Mixed-Use Project (hereinafter, "SWAPE Comments"), August 3, 2016, **Attachment A**.

impacts. Individual members may also work on the Project itself. They will therefore be first in line to be exposed to any health and safety hazards that may exist on the Project site.

The organizational members of Oakland Residents also have an interest in enforcing the City's planning and zoning laws and the State's environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for business and industry to expand in the region, and by making it less desirable for businesses to locate and people to live there. Indeed, continued degradation can, and has, caused restrictions on growth that reduce future employment opportunities. Finally, Oakland Residents' members are concerned about projects that present environmental and land use impacts without providing countervailing economic and community benefits.

II. THE CITY MAY NOT RELY ON PREVIOUS ENVIRONMENTAL ANALYSIS FOR PROJECT APPROVAL

CEQA has two basic purposes, neither of which is satisfied by the CEQA Analysis. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental impacts of a project before harm is done to the environment.[3] The EIR is the "heart" of this requirement.[4] 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."[5]

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and "reflect a good faith effort at full disclosure."[6] An adequate EIR must contain facts and analysis, not just an agency's conclusions.[7] CEQA requires an

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[3] 14 Cal. Code Regs. § 15002(a)(1) ("CEQA Guidelines"); *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.
[4] *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 84.
[5] *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[6] CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.
[7] *See Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.

EIR to disclose all potential direct and indirect, significant environmental impacts of a project.[8]

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring imposition of mitigation measures and by requiring the consideration of environmentally superior alternatives.[9] If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.[10] CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.[11] Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, but must ensure that mitigation conditions are fully enforceable through permit conditions, agreements or other legally binding instruments.[12] A CEQA lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility.[13] This approach helps "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."[14]

Following preliminary review of a project to determine whether an activity is subject to CEQA, a lead agency is required to prepare an initial study to determine whether to prepare an EIR or negative declaration, identify whether a program EIR, tiering, or other appropriate process can be used for analysis of the project's environmental effects, or determine whether a previously prepared EIR could be

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[8] Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2(a).
[9] CEQA Guidelines § 15002(a)(2) and (3); *Berkeley Jets,* 91 Cal.App.4th at 1354; *Laurel Heights Improvement Ass'n v. Regents of the University of Cal.* (1998) 47 Cal.3d 376, 400.
[10] Pub. Resources Code §§ 21002.1(a), 21100(b)(3).
[11] *Id.*, §§ 21002-21002.1.
[12] CEQA Guidelines § 15126.4(a)(2).
[13] *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement found to be inadequate mitigation because there was no record evidence that replacement water was available).
[14] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.

used with the project, among other purposes.[15] CEQA requires an agency to analyze the potential environmental impacts of its proposed actions in an EIR except in certain limited circumstances.[16] A negative declaration may be prepared instead of an EIR when, after preparing an initial study, a lead agency determines that a project "would not have a significant effect on the environment."[17]

When an EIR has previously been prepared that could apply to the Project, CEQA requires the lead agency to conduct subsequent or supplemental environmental review when one or more of the following events occur:

(a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report;

(b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or

(c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available.[18]

The CEQA Guidelines explain that the lead agency must determine, on the basis of substantial evidence in light of the whole record, if one or more of the following events occur:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant effects or a substantial increase in the severity of previously identified effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant

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[15] CEQA Guidelines §§ 15060, 15063(c).
[16] *See, e.g.*, Pub. Resources Code § 21100.
[17] *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597; Pub. Resources Code § 21080(c).
[18] Pub. Resources Code § 21166.

environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.[19]

Only where ***none*** of the conditions described above calling for preparation of a subsequent or supplemental EIR have occurred may the lead agency consider preparing a subsequent negative declaration, an Addendum or no further documentation.[20] For Addendums specifically, which is one of several CEQA exemption/streamlining avenues that the City claims is applicable to the Project, CEQA allows Addendums to a previously certified EIR if minor changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.[21]

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[19] CEQA Guidelines § 15162(a)(1)-(3).
[20] CEQA Guidelines § 15162(b).
[21] CEQA Guidelines § 15164; CEQA Analysis, p. 9.

Here, the City has failed to demonstrate that the Project can be lawfully approved based on the CEQA Analysis provided. Indeed, as explained in this letter, the City must disclose, analyze, and mitigate the Project's significant impacts in an EIR. Otherwise, the City's approval of the Project would violate CEQA.

A. The Project is Not Consistent with CEQA Addendum and Exemption Requirements

The City claims the Project is consistent with CEQA Guidelines Sections 15162 (Subsequent EIR and Negative Declaration), 15164 (Addendums), and 15168 (Program EIRs).[22] However, the City's reliance on these provisions is misplaced.

The CEQA Analysis does not simply provide "minor changes or additions are necessary" to the EIR as is allowed under the Addendum provision; rather, it includes substantive analysis for a large development project which was not specifically analyzed in the LMSAP EIR.[23] The City must discontinue this practice, which clearly violates CEQA. Second, as explained further below, the Project will result in new or more severe significant impacts than analyzed in previous EIRs, and there are new mitigation measures that were not considered in the previous EIRs, but that could reduce those impacts to a less than significant level. In any case, the City's decision must be supported by substantial evidence.[24] Here, the City's decision not to prepare a subsequent or supplemental EIR for the Project is not supported by substantial evidence.

The City also relies on additional CEQA provisions that allow approval of projects without an EIR in narrow circumstances. Specifically, the City relies on CEQA Guidelines Sections 15183 (Community Plan)[25] and 15183.3 (Qualified Infill)[26] for Project approval. However, the City's determination that exemptions also apply is not supported by substantial evidence.

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[22] CEQA Analysis, p. 9 – 10.
[23] *Id.*, at p. 2. The City has also improperly used the Addendum provisions of CEQA on other recent projects as demonstrated in comments and evidence submitted by Oakland residents (*See* 226 13th Street Project (PLN15320) http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak058739.pdf; *See also* 2400 Valdez Street Project (PLN15-336), http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak057878.pdf).
[24] *Id.* §§ 15162 (a), 15164(e), and 15168(c)(4).
[25] CEQA Guidelines Section 15183.
[26] CEQA Guidelines Section 15183.3.

The exemptions apply only when a Project does not have impacts peculiar to the proposed project that are new or more significant than previously analyzed or can be substantially mitigated by uniformly applicable development policies or standards. The Project fails to meet these requirements because the site is highly contaminated and could pose a risk to construction workers and residents, which was not fully analyzed under the LMSAP. Furthermore, the Project's health risks from diesel particulate matter ("DPM") emissions during construction may be highly significant. In particular, because the LMSAP did not actually quantify project-level health risks, the absence of any previous project-specific analysis undermines the City's determination that Standard Conditions of Approval ("SCAs") would mitigate the impact. Unfortunately, the LMSAP EIR did not fully address these peculiar and more significant impacts, and there are mitigation measures not previously identified that would reduce these significant impacts.

Thus, the Project will have new or more severe significant impacts than previously analyzed in the LMSAP EIR. In addition, as described below, the site-specific analysis conducted for the Project is legally deficient in several ways and the CEQA Analysis fails to incorporate all feasible mitigation. Therefore, the City may not rely on the CEQA Analysis for Project approval, and must provide detailed analysis of the Project's impacts in an EIR.

B. The CEQA Analysis Fails To Adequately Analyze and Mitigate On-Site Hazards

1. Project Site Contamination Has Not Been Adequately Addressed

The CEQA Analysis states that a Phase I Environmental Site Assessment, which the City failed to provide Oakland Residents after several requests, identified multiple recognized environmental conditions ("RECs") at the project site and the 301 12th Street parcel is now listed on the Cortese List[27] as a cleanup site by the California Department of Toxic Substances Control ("DTSC").[28] The CEQA Analysis further states that there are "ongoing environmental investigations" on the site.[29] As discussed in the LMSAP, federal, State, and regional regulations would apply to contaminated sites. However, CEQA still requires analysis and mitigation of significant impacts, despite the applicability of oversight by other

[27] Cal. Govt. Code section 65962.5.
[28] CEQA Analysis, p. 57.
[29] *Id.*

agencies. The LMSAP did not conduct project-specific assessment of on-site hazards, and thus deferred investigation and cleanup of hazards to the project planning stage.

SWAPE explains that although the Project site is highly contaminated, the CEQA Analysis fails to acknowledge that contaminants underlying the Project site have recently been found in excess of screening levels in the indoor air of existing buildings and that cleanup has yet to commence.[30] The 301 12th Street Parcel is a former automobile dealership and repair center. According to Envirostor,[31] a cleanup agreement is pending between the Applicant and DTSC.[32]

According to SWAPE, soil, soil gas and groundwater samples collected from beneath the site showed elevated concentrations of trichloroethylene ("TCE"), along with other chlorinated solvents and petroleum hydrocarbons.[33] The indoor air of the Downtown Oakland Charter School that is currently located on the property was analyzed in May 2016. SWAPE explains that the concentrations of TCE in indoor air at the school ranged from 10 to 200 µg/m3, greatly exceeding US EPA Region 9's Accelerated Response Action Level ("ARAL") for residential direct exposure (2 µg/m3).[34] A ventilation system installed at the school reduced concentrations of TCE in indoor air to less than the ARAL. On May 26, 2016, DTSC notified the school that indoor air levels of TCE had been reduced to below the ARAL for residential direct exposure.[35] SWAPE notes that although the ventilation system has been effective in reducing the indoor air concentrations of TCE, "no cleanup has been conducted and no comprehensive evaluation of the source of the TCE and the other chlorinated solvents in the subsurface has been initiated."[36]

SWAPE further explains that a "completed vapor intrusion pathway – whereby TCE and other chlorinated compounds move from contaminated groundwater, soil, and soil vapor into the air within overlying buildings – has been demonstrated at the Project site and remains viable."[37] According to SWAPE, TCE

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[30] SWAPE Comments, p. 4 – 5.
[31] http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002362.
[32] Ibid.
[33] SWAPE Comments, p. 4 – 5.
[34] http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002362.
[35] SWAPE Comments, p. 5.
[36] *Id.*
[37] *Id.*

is a cancer-causing agent[38] that would pose risks to construction workers and future residents unless the pathway is cut off.[39] According to SWAPE, the vapor intrusion pathway will remain at the Project site until a comprehensive investigation and a remedial effort, where the source of the TCE is removed, has been completed.

The CEQA Analysis fails to provide for any mitigation that would target and remove the source of TCE and other chlorinated compounds. The CEQA Analysis merely includes general provisions to address the contamination and only after earth-moving activities are initiated. SCA HAZ-1 and SCA-2 call for implementation of best management practices and measures for dealing with "unexpected" soil contamination that is visually discolored or that is emanating an odor. SWAPE finds that "[t]his is entirely inappropriate for a site where groundwater, soil and soil vapor have been contaminated with TCE which can be extremely difficult to assess and remediate to health protective levels."[40]

The CEQA Analysis fails to include requirements for a site cleanup that is health-protective of construction workers and future Project workers and occupants.[41] Instead, SWAPE notes that the CEQA Analysis assumes that whatever contamination is seen or smelled during grading or trenching will be addressed through "undefined" Best Management Practices.[42] SWAPE further states that TCE contamination is often found in the form of a dense non-aqueous phase liquid ("DNAPL") where pools or layers of leaked TCE accumulates on low-permeability clays in the subsurface.[43] These DNAPLs "may be below the area to be excavated and may represent a residual, ongoing source of contamination via the vapor intrusion pathway that would be unaddressed during construction because it would be below the level of Project excavation."[44]

SWAPE finds that prior to proceeding with soil excavation and Project construction, a "thorough investigation of the contamination at the site is necessary to determine if development as a residential community is appropriate."[45] This is

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[38] http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=172&tid=30.
[39] SWAPE Comments, p. 5.
[40] *Id.*
[41] *Id.*
[42] *Id.*
[43] *Id.*
[44] *Id.*
[45] *Id.*

necessary to address during CEQA review, even if another agency such as DTSC has additional oversight. The CEQA Analysis merely assumes, without further justification, that regulations outside of the CEQA process would mitigate impacts to less than significant levels. However, as case law has shown, compliance with applicable regulations does not automatically obviate the need for further analysis of impacts.

In *Keep our Mountains Quiet v. County of Santa Clara*, neighbors of a wedding venue sued over the County's failure to prepare an EIR due to significant noise impacts. The court concluded that "a fair argument [exists] that the Project may have a significant environmental noise impact" and reasoned that although the noise levels would likely comply with local noise standards, "compliance with the ordinance does not foreclose the possibility of significant noise impacts."[46] The court ordered the County to prepare an EIR. The ruling demonstrates the possibility that a project may be in compliance with an applicable regulation and still have a significant impact.

In *Communities for a Better Env't v. California Res. Agency*, the court struck down a CEQA Guideline because it "impermissibly allow[ed] an agency to find a cumulative effect insignificant based on a project's compliance with some generalized plan rather than on the project's actual environmental impacts."[47] The court concluded that "[i]f there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project."[48] Thus, the ruling supports the notion that despite assured compliance with applicable standard outside of the CEQA process, a lead agency still has an obligation to consider substantial evidence and analyze and mitigate potentially significant impacts.

In *Leonoff v. Monterey County Bd. of Supervisors*, the court held that conditions requiring compliance with regulations are proper "where the public agency had meaningful information reasonably justifying an expectation of mitigation of environmental effects."[49] The ruling suggests that an agency that merely provides a bare assertion that the project will be in compliance with

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[46] *Keep our Mountains Quiet v. County of Santa Clara* (2015) Case No. H039707, p. 21.
[47] *Communities for a Better Env't v. California Res. Agency* (2002) 126 Cal.Rptr.2d 441, 453.
[48] *Id.*
[49] *Leonoff v. Monterey County Bd. of Supervisors* (1990) 222 Cal.App.3d 1337, 1355.

applicable regulations, without further explanation or enforceability, may not fulfill the requirements of CEQA.

Here, the City failed to provide any information explaining how compliance with the outside laws and regulations would reduce the risks posed to workers and residents from the high levels of TCE contamination on the site. The City may not rely solely on compliance with regulations or laws as reducing impacts without a full analysis of impacts or enforceable mitigation. Furthermore, reliance on the LMSAP is improper because the LMSAP did not conduct a site-specific investigation of the highly contaminated site.

CEQA requires that the City describe all components of the Project that may have a significant impact, and adequately analyze and require mitigation for all potentially significant impacts related to on-site hazards. Here, the City failed to do so in its CEQA Analysis. SWAPE concludes that Project construction should not be allowed until a full EIR has been prepared "to document that a thorough assessment and cleanup of the contamination has been completed under regulatory oversight and that a residential land use is appropriate."[50]

2. Dewatering Impacts Has Not Been Adequately Addressed

Under CEQA, a project may have a significant impact if it would violate any water quality standards or waste discharge requirement, create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.[51] CEQA and applicable case law require the City to describe all aspects of the Project, and, as explained above, disclose the significance of all impacts and provide separate and enforceable mitigation.[52]

The CEQA Analysis states that "[s]ome dewatering may be required for construction of the proposed project, but the dewatering is not anticipated to substantially lower the groundwater level."[53] The CEQA Analysis also states that the Project "would involve grading and excavation activities up to depths of

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[50] SWAPE Comments, p. 4.
[51] CEQA Guidelines, Appendix G.
[52] *Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645.
[53] CEQA Analysis, p. 60.

approximately 16 feet below grade to construct the building. . ."[54] Thus dewatering will most likely be required at those depths. SWAPE states that the known TCE contamination in groundwater and any residual source of TCE contamination below the water table "poses a water quality issue during dewatering."[55] SWAPE further notes that the CEQA Analysis fails to consider that groundwater that would be dewatered is known to be contaminated with TCE and other compounds.[56] Contaminated groundwater that is generated from the dewatering process would need to be handled and disposed in accordance with the San Francisco Bay Regional Water Quality Control Board's NPDES General Permit requirements,[57] but the City is still required under CEQA to fully describe, analyze, and mitigation potential impacts from dewatering in its CEQA document.

SWAPE concludes that an EIR must be prepared to analyze the impact and identify the Regional Board's dewatering requirements and how they will be met during Project construction.[58]

C. The CEQA Analysis Fails To Adequately Analyze and Mitigate Project-Specific Health Risk From Diesel Particulate Matter

1. *The City is Required to Quantify the Project's Health Risk from DPM Emissions During Construction*

The California Air Resources Board ("CARB") identifies diesel particulate matter ("DPM") as a toxic air contaminant ("TAC") based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects.[59] In 2012, the International Agency for Research on Cancer listed diesel engine exhaust as "carcinogenic to humans."[60] As with other air pollutants, SWAPE explains that DPM emissions during development construction can impact both on-site construction workers and the surrounding community such as schools and residential sensitive receptors.[61]

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[54] *Id.*, at 47.
[55] SWAPE Comments, p. 5.
[56] *Id.*
[57] http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0060.pdf.
[58] SWAPE Comments, p. 5.
[59] http://www.arb.ca.gov/research/diesel/diesel-health.htm.
[60] *Id.*
[61] SWAPE Comments, p. 3 – 4.

The LMSAP EIR concludes that "[d]evelopment facilitated by the proposed Plan would potentially expose sensitive receptors to substantial health risks from [TACs] from sources including both DPM and gaseous emissions."[62] Furthermore, the LMSAP EIR found that while compliance with the City's SCAs "would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less than significant level", the SCAs would not necessarily reduce gaseous TACs to a less-than-significant level.[63] Therefore, the LMSAP EIR found the impacts related to DPM exposure would be less than significant, while the remaining TAC impacts (related to gaseous sources) would be significant and unavoidable.[64]

The LMSAP EIR did not address project-level construction related exposures because "[t]he specificity of detail necessary to conduct a health risk assessment is not available at the Plan stage…"[65] The LMSAP EIR thus deferred the assessment of health risks from construction activities to the project level stage where project-specific impacts and mitigation measures could be determined to ensure that DPM exposure would not exceed applicable thresholds.

As explained by SWAPE, however, the CEQA Analysis completely fails to evaluate the health risk posed to nearby sensitive receptors from exposure to DPM emissions released during Project construction, despite the indication in the LMSAP EIR that a health risk assessment ("HRA") would be required.[66] The City's omission of a construction HRA is particularly egregious because of the Project's proximity to the American Indian Public Charter School, which is a charter middle school with predominantly low-income, minority students within a few blocks of the Project. As stated in the CEQA Analysis, construction-related emissions (as well as the release of potentially hazardous materials during construction as explained above) would occur for up to 2 years.[67]

The CEQA Analysis states that although "[t]he LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health

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[62] LMSAP DEIR, p. ES-34.
[63] *Id.*
[64] *Id.*, at 3.3-25.
[65] *Id.*, at 3.3-39.
[66] SWAPE Comments, p. 2 – 3.
[67] CEQA Analysis, p. 2.

problems and acute health risk," all future development projects pursuant to the LMSAP would be subject to basic construction control measures and best management practices through implementation the SCAs and thus the impact would be less than significant.[68] SWAPE's analysis demonstrates that these justifications are misplaced.

Although the CEQA Analysis incorporates SCAs from the LMSAP, the City is not absolved of CEQA's requirement that agencies disclose significant environmental impacts to the public and mitigate those impacts.[69] The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities. Therefore, CEQA mandates that the City quantify that risk in order to determine ***if*** the basic construction control measures and best management practices in the SCAs will reduce DPM emissions to less than significant levels.

Furthermore, the CEQA Analysis assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. SWAPE explains that this determination conflicts with most recent guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing recommendations for health risk assessments in California. OEHHA's *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted by OEHHA in March of 2015, describes the types of projects that warrant the preparation of a health risk assessment.[70] OEHHA guidance recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[71]

Here, Project construction is expected to last up to 24 months and Project construction will produce emissions of DPM, as described in the CEQA Analysis. SWAPE explains that OEHHA's recommendation that such short-term projects be evaluated for cancer risks to nearby sensitive receptors "reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby

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[68] *Id.*
[69] CEQA Guidelines §§ 15126.2, 15126.4.
[70] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html.
[71] *Id.*, at 8-18.

sensitive receptors from construction should be included in a revised CEQA evaluation for the Project."[72]

2. The Project May Result in Significant Health Risks from DPM Emissions During Construction

In light of the City's failure to quantify the Project's impacts from DPM emissions during construction, SWAPE provides its own analysis on the Project's significant health risks. Oakland Residents was not provided with the CalEEMod output files, thus SWAPE was unable to independently estimate the construction health risk for the proposed Project. However, based on previous analyses SWAPE has conducted on similar projects in Oakland, as described in their letter, SWAPE reasonably assumes that the proposed Project would result in significant health risks.

Although the Project would implement SCA AIR-1, without quantification of the health risk, it is unclear if risk will be reduced to a less-than-significant level once these mitigation measures are implemented. SWAPE concludes that an EIR is necessary to include a quantitative estimate of health risk and mitigation.

3. The City Fails to Incorporate all Feasible Mitigation Measures Required to Reduce Significant Impacts from DPM Emissions

SWAPE's comparison of the Project to other similar projects in Oakland demonstrates that construction of the Project could result in significant health risks that have not been quantified.[73] SWAPE has detailed list of mitigation measures that could be incorporated to reduce DPM exposure. Although the CEQA Analysis incorporates SCA AIR-1 from the LMSAP FEIR, the Project would require even further measures to reduce the significant impacts from DPM emissions to less than significant levels. SWAPE notes that additional mitigation measures can be found in the California Air Pollution Control Officers Association's ("CAPCOA") *Quantifying Greenhouse Gas Mitigation Measures,* which reduces GHG emissions, as well as reduce Criteria Air Pollutants such as particulate matter (PM).[74]

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[72] SWAPE Comments, p. 3.
[73] *Id.*, at 3 – 4.
[74] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

Mitigation measures for particulate matter emissions, which are described in further detail in SWAPE's comments, include:[75]

- Limiting construction equipment beyond regulation requirements;
- Requiring implementation of diesel control measures as described by the Northeast Diesel Collaborative ("NEDC");
- Repowering or replacing older construction engines;
- Installing retrofit devices on existing construction equipment;
- Using electric or hybrid construction equipment;
- Instituting a Heavy-Duty Off-Road Vehicle Plan;
- Implementing a Construction Vehicle Inventory Tracking System; and
- "Enhanced Exhaust Control Practices," recommended by the Sacramento Metropolitan Air Quality Management District ("SMAQMD").[76]

The CEQA Analysis is inconsistent with the LMSAP because it fails to quantify the health risk associated with DPM emissions for this Project, as anticipated under the LMSAP EIR. In addition, the City failed to identify and incorporate feasible mitigation measures, not previously identified, that would reduce the Project's significant health risk impacts during construction. In light of the fact that the LMSAP EIR identified the health risk from DPM during construction as a less than significant impact, the evidence of significant DPM impacts associated with the Project constitutes substantial new information showing a new or more severe significant impact than previously analyzed. Furthermore, there are mitigation measures not previously identified that could potentially reduce the impact to less than significant levels. Therefore, CEQA requires the City to prepare an EIR for the Project, and the City may not rely on the CEQA Analysis for Project approval.

D. The City Failed To Provide the Public with Information Regarding Project-Specific Construction Emissions

The CEQA Analysis states that CalEEMod was used to estimate the Project's construction and operational criteria air pollutant emissions and greenhouse gas ("GHG") emissions.[77] SWAPE explains that CalEEMod provides recommended default values based on site specific information, such as land use type,

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[75] SWAPE Comments, p. 4 – 9.
[76] http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf.
[77] CEQA Analysis, p. 35 – 36, 52.

meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence.[78] 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.[79]

However, after review of the entire CEQA Analysis, SWAPE finds that the CalEEMod output files for this Project were completely omitted, despite several attempts made by Oakland Residents to acquire and review those files. Without the output files, the public cannot verify that the assumptions used within the model were correctly applied, and thus whether the City's analysis is supported. As a result, SWAPE finds that "both the criteria air pollutant emission and GHG emission estimates provided in the CEQA Analysis are unreliable and should not be used to determine Project significance. . ."[80] SWAPE notes that the omission of these output files deviates from the technical appendices attached to CEQA documents for other construction projects in Oakland.

Therefore, SWAPE concludes that an EIR should be prepared that adequately address the air quality and GHG impacts associated with the proposed Project and provides the complete CalEEMod output files.[81]

III. CONCLUSION

The City failed to comply with CEQA's procedural and evidentiary standards in its CEQA Analysis. As explained above, the CEQA Analysis fails to analyze and mitigate the Project's high levels of TCE contamination and the Project's significant health risks posed to the surrounding community from DPM emissions. Both of these significant impacts are new or more severe than previously analyzed, and

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[78] CalEEMod User Guide, p. 2, 9, *available at:* http://www.caleemod.com/.
[79] CalEEMod User Guide, p. 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.)
[80] SWAPE Comments, p. 2.
[81] *Id.*

mitigation measures, which are considerably different from those analyzed in the LMSAP EIR, would substantially reduce these significant effects, but have not been required in the CEQA Analysis. The City also failed to provide the public with the information necessary to facilitate public review of the Project's air quality and GHG impacts. For these reasons, we urge the City to revise its analysis, identify feasible mitigation measure and disclose its revised analysis in an EIR, as required by CEQA, before the City considers approval of the Project.

Sincerely,

Laura E. Horton

LEH:ric
Attachments

3615-002rc

ATTACHMENT A

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

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August 3, 2016

Laura E. Horton
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080

Subject: Comments on the W12 Mixed-Use Project

Dear Ms. Horton:

We have reviewed the W12 Mixed-Use Project CEQA Analysis ("CEQA Analysis") and associated attachments/appendices for the proposed mixed-use development project ("Project") located in Oakland, California. The Project proposes to redevelop two parcels within the area of the Lake Merritt Station Area Plan (LMSAP) and plans to construct two buildings consisting of approximately 416 residential units, 317 parking spaces, and 25,050 square feet of retail space on approximately 1.72 acres. The LMSAP Environmental Impact Report (LMSAP EIR) was certified in 2014, and it analyzed program-level impacts associated with adoption and implementation of the LMSAP.

Our review concludes that the CEQA Analysis fails to adequately evaluate the Project's Air Quality and Greenhouse Gas impacts and construction health risks. The CEQA Analysis also fails to disclose that hazardous waste conditions are present at the Project site that may pose risks to construction workers and future residents and present undisclosed issues when contaminated groundwater is dewatered during project construction. A project-specific Draft Environmental Impact Report (DEIR) should be prepared to adequately address these issues and incorporate additional mitigation.

Air Quality and Greenhouse Gas

Failure to Provide CalEEMod Output Files

According to the CEQA Analysis, CalEEMod was used to estimate the Project's construction and operational criteria air pollutant emissions (Table AIR-1, p. 35, Table AIR-2, p. 36) and greenhouse gas (GHG) emissions (CEQA Analysis, p. 52). CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be

justified by substantial evidence.[1] 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.[2]

However, after review of the entire CEQA Analysis, we find that the CalEEMod output files for this Project were completely omitted. Without the output files, we are unable to verify that the assumptions used within the model are correct and cannot determine what default values were used. While the CEQA Analysis states what assumptions were used in the model for calculating construction and operational emissions, we are unable to verify that these assumptions were correctly inputted into the model. Furthermore, we are unable to review the CalEEMod output files to determine if any other default values were changed or if project specific information was omitted from the model. As a result, both the criteria air pollutant emission and GHG emission estimates provided in the CEQA Analysis are unreliable and should not be used to determine Project significance, since there is not documentation verifying the values.

The omission of these output files deviates from the technical appendices attached to CEQA documents for other construction projects in Oakland.[3] Without providing the entire CalEEMod report, the reviewer cannot fully understand the assumptions that were made about the Project, and cannot verify whether those assumptions are justified. A DEIR should be prepared that adequately address the air quality and GHG impacts associated with the proposed Project and provides the complete CalEEMod output files.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The CEQA Analysis concludes that the health risk posed to nearby sensitive receptors from exposure to diesel particulate matter ("DPM") emissions released during Project construction would be less than significant, yet fails to quantify the risk and compare it to applicable thresholds (p. 38). The CEQA Analysis attempts to justify the omission of an actual health risk assessment ("HRA"), stating, "Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9,40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities" (p. 37). Furthermore, the CEQA

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

[2] CalEEMod User Guide, p. 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.)

[3] *Compare to, e.g.*, Appendix E, "Air Quality and Greenhouse Gas Emissions – CalEEmod, Report, HRA Dispersion Model and ISCST3 Model" prepared by the City of Oakland for the Jack London Square 4th & Madison project (Entire CalEEMod output files with descriptions of construction phases, equipment, and changes to default settings are provided). *Available at:* http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak054487.pdf

Analysis states that, "The LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health problems, and acute health risk. However, all future development projects pursuant to the LMSAP would be subject to basic construction control measures through implementation of the City's SCA's (SCA-A in the LMSAP, see Attachment A). SCA AIR-1, which requires "enhanced" construction emission control measures for of all residential development in excess of 240 units, would implement construction-related Best Management Practices to substantially reduce construction-related impacts to a less-than-significant level" (p. 37-38). This justification, however, is incorrect.

Although the CEQA Analysis states that the Project would require to include construction control measures through implementation of Standard Conditions of Approval (SCAs), the risk must still be quantified to determine which measures must be applied to reduce DPM emissions and if the measures will reduce emissions to levels that will not cause a significant impact. The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities, so therefore the risk should be quantified in order to determine if the control measures will reduce DPM emissions to adequate levels, as required under CEQA.

Furthermore, the CEQA model assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. This determination, however, is in contrast to the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations for health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.[4] This guidance document describes the types of projects that warrant the preparation of a health risk assessment. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a one-year construction period of one years (CEQA Analysis, p. 35). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[5] This recommendation reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive receptors from construction should be included in a revised CEQA evaluation for the Project.

At the time of this analysis, we were not provided with the CalEEMod output files and therefore, we were unable to independently estimate the construction health risk for the proposed Project. However, based on previous analyses we conducted on similar projects nearby, we can reasonably assume that the proposed Project would result in a significant impact. Our analysis concluded that for the nearby 226 13th Street project, which is a slightly smaller mixed-use project that is also tiering from the LMSAP EIR, the construction health risk posed to nearby sensitive receptors are 50.4, 371, and 337 in one million for

[4] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html
[5] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18

adults, children, and infants, respectively.[6] Similarly, we found the construction health risk to nearby sensitive receptors for the 2400 Valdez Street project, which proposes to construct 225 residential units and 23,465 square feet of retail , to be 40.4, 233, and 777 in one million for adults, children, and infants, respectively.[7] Both these projects propose construction of residential and commercial space in the City of Oakland, similar to the proposed Project, and are smaller than the proposed Project. Therefore, it is reasonable to assume that the construction health risk for the proposed Project will be comparable to the 226 13th Street project and the 2400 Valdez Street project, if not higher.

Although the Project would implement SCA AIR-1, without quantification of the health risk it is unclear if risk will be reduced to a less-than-significant level once these mitigation measures are implemented. A DEIR is necessary to include a quantitative estimate of health risk and mitigation, as necessary.

As demonstrated above, construction of the Project will likely result in a significant health risk impact. Therefore, additional mitigation measures should be identified and incorporated to reduce the Project's construction diesel exhaust emissions to a less-than-significant level. Additional mitigation measures can be found in the California Air Pollution Control Officers Association's ("CAPCOA") *Quantifying Greenhouse Gas Mitigation Measures,* which attempt to reduce Greenhouse Gas (GHG) levels, as well as reduce Criteria Air Pollutants such as particulate matter (PM).[8] Mitigation for particulate matter emissions should include consideration of the following measures in an effort to reduce construction emissions to a level that would result in a less-than-significant health risk impact.

Limit Construction Equipment Idling Beyond Regulation Requirements

Heavy duty vehicles will idle during loading/unloading and during layovers or rest periods with the engine still on, which requires fuel use and results in emissions. The California Air Resources Board ("CARB") Heavy-Duty Vehicle Idling Emissions Reduction Program limits idling of diesel-fueled commercial motor vehicles to five minutes. Reduction in idling time beyond the five minutes required under the regulation would further reduce fuel consumption and thus emissions. The Project applicant must develop an enforceable mechanism that monitors the idling time to ensure compliance with this mitigation measure.

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative ("NEDC") is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures: [9]

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[6] See SWAPE Comment Letter, as attached to Adams Broadwell Joseph & Cardozo Comment Letter on the CEQA Analysis for the Proposed 226 13th Street Project, dated May 31, 2016.
[7] See SWAPE Comment Letter, as attached to Adams Broadwell Joseph & Cardozo Comment Letter on the CEQA Analysis for the Proposed 2400 Valdez Street Project, dated April 13, 2016.
[8] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[9] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

- All diesel onroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA 2007 onroad emissions standards or (2) emission control technology verified by EPA[10] or the California Air Resources Board (CARB)[11] 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 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[12] approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less.

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[13] 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.[14] 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).

  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.[15] 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

[10] For EPA's list of verified technology: http://www3.epa.gov/otaq/diesel/verification/verif-list.htm
[11] For CARB's list of verified technology: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm
[12] 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
[13] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[14] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[15] http://www3.epa.gov/otaq/diesel/technologies/engines.htm

the current (existing) and new engines to ensure the repower product is reducing emissions for PM10.[16]

- Replacement of older equipment with equipment meeting the latest emission standards.

  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.[17] 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.[18]

Install Retrofit Devices on Existing Construction Equipment

PM 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. [19] Below is a table, prepared by the EPA, that summarizes the commonly used retrofit technologies and the typical cost and emission reductions associated with each technology.[20] 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

[16] Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Projects Information, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/420p11001.pdf
[17] http://www3.epa.gov/otaq/diesel/technologies/replacements.htm
[18] http://www3.epa.gov/otaq/diesel/technologies/engines.htm
[19] http://www3.epa.gov/otaq/diesel/technologies/index.htm
[20] http://www3.epa.gov/otaq/diesel/technologies/retrofits.htm

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[21] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate criteria pollutant emissions, such as particulate matter. 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 and criteria air pollutants would be 100% reduced for equipment running on electricity. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation[22] and Komptech USA[23], 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[24]. 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.[25] 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.

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[26] 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: [27]

- 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.

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[21] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[22] Peterson Electric Grinders Brochure, *available at:* http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf
[23] https://www.komptech.com/about-komptech/green-efficiency.html
[24] http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html
[25] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[26] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[27] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

- The Certification Statement[28] signed and printed on the contractor's letterhead.

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: [29]

- 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).

In addition to those measures, we also recommend that the City require the Applicant to implement the following mitigation measures, called "Enhanced Exhaust Control Practices,"[30] that are recommended by the Sacramento Metropolitan Air Quality Management District ("SMAQMD"):

1. The project representative shall submit to the lead agency and District a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
    - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
    - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
    - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
    - The District's Equipment List Form can be used to submit this information.
    - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency and District demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_X reduction and 45% particulate reduction compared to the most recent CARB fleet average.
    - This plan shall be submitted in conjunction with the equipment inventory.

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[28] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf The NEDC Model Certification Statement can be found in Appendix A.
[29] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf
[30] http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf

- Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
    - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly.
    - A visual survey of all in-operation equipment shall be made at least weekly.
    - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

When combined together, these measures offer a cost-effective way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently, reduces particulate matter emissions released during Project construction.

Hazards and Hazardous Waste

The Project overlies a contaminated site included on the Cortese List (the 301 12th Street parcel) as acknowledged in the Analysis. The CEQA Analysis fails, however, to acknowledge that contaminants underlying the Project site have recently been found in excess of screening levels in the indoor air of existing buildings and that cleanup has yet to commence. Project construction should not be allowed until a DEIR has been prepared to document that a thorough assessment and cleanup of the contamination has been completed under regulatory oversight and that a residential land use is appropriate.

The 301 12th Street Parcel (known on Envirostor as "301 12th Street Future Development"[31]) is a former automobile dealership and repair center. According to Envirostor, a cleanup agreement is pending between the developer (The Martin Group) and the California Department of Toxics Substances Control.[32]

Soil, soil gas and groundwater samples collected from beneath the site showed elevated concentrations of trichloroethylene (TCE), along with other chlorinated solvents and petroleum hydrocarbons. The

[31] http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002362
[32] Ibid.

indoor air of the school that is currently located on the property was assessed in May 2016. The concentrations of TCE in indoor air in the school ranged from 10 to 200 µg/m3, greatly exceeding US EPA Region 9's Accelerated Response Action Level (ARAL) for residential direct exposure (2 µg/m3).[33] A ventilation system has reduced concentrations of TCE in indoor air to less than the ARAL. On May 26, 2016, DTSC notified the school that indoor air levels of TCE had been reduced to below the ARAL for residential direct exposure. Whereas the ventilation system has been effective in reducing the indoor air concentrations of TCE, no cleanup has been conducted and no comprehensive evaluation of the source of the TCE and the other chlorinated solvents in the subsurface has been initiated.

A completed vapor intrusion pathway -- whereby TCE and other chlorinated compounds, move from contaminated groundwater, soil, and soil vapor into the air within overlying buildings – has been demonstrated at the Project site and remains viable. TCE is a cancer-causing agent[34] that would pose risks to construction workers and future residents unless the pathway is cut off. The vapor intrusion pathway will remain complete at the Project site until a comprehensive investigation and a remedial effort, where the source of the TCE is removed, has been completed.

The CEQA Analysis does not provide for any mitigation that would target and remove the source of TCE and other chlorinated compounds. The CEQA Analysis only provides for general provisions to address the contamination and only after earth-moving activities are initiated. SCA HAZ-1 and SCA-2 call for implementation of best management practices and measures for dealing with "unexpected" soil contamination that is visually discolored or that is emanating an odor. This is entirely inappropriate for a site where groundwater, soil and soil vapor have been contaminated with TCE which can be extremely difficult to assess and remediate to health protective levels.

No requirements for a site cleanup that is health-protective of construction workers and future Project workers and occupants are included in the Analysis. Instead, the CEQA Analysis assumes that whatever contamination is seen or smelled during grading or trenching will be addressed through undefined BMPs. TCE contamination is often found in the form of a dense non-aqueous phase liquid (DNAPL) where pools or layers of leaked TCE accumulates on low-permeability clays in the subsurface. These DNAPLs may be below the area to be excavated and may represent a residual, ongoing source of contamination via the vapor intrusion pathway that would be unaddressed during construction because it would be below the level of Project excavation.

Prior to proceeding with soil excavation and Project construction, a thorough investigation of the contamination at the site is necessary to determine if development as a residential community is appropriate. To ensure that the investigation is thorough, DTSC oversight is necessary. DTSC oversight of the cleanup of the Project site is also necessary for the protection of the health of future residents and workers.

The known TCE contamination in groundwater and any residual source of TCE contamination below the water table also poses a water quality issue during dewatering. The Analysis states that "some

[33] Ibid.
[34] http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=172&tid=30

dewatering may be required for Project construction" but the Analysis fails to consider that groundwater that is dewatered is known to be contaminated with TCE and other compounds. Contaminated groundwater that is generated from the dewatering process needs to be handled and disposed in accordance with the San Francisco Bay Regional Water Quality Control Board's NPDES General Permit requirements.[35] A DEIR needs to be prepared to identify the Regional Board's dewatering requirements and how they will be met during Project construction.

Sincerely,

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

Jessie Jaeger

[35] http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0060.pdf

ATTACHMENT A-1

Trichloroethylene - ToxFAQs™

CAS # 79-01-6

This fact sheet answers the most frequently asked health questions (FAQs) about trichloroethylene. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Trichloroethylene is a colorless liquid which is used as a solvent for cleaning metal parts. Drinking or breathing high levels of trichloroethylene may cause nervous system effects, liver and lung damage, abnormal heartbeat, coma, and possibly death. Trichloroethylene has been found in at least 852 of the 1,430 National Priorities List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is trichloroethylene?

Trichloroethylene (TCE) is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers.

Trichloroethylene is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

What happens to trichloroethylene when it enters the environment?

- Trichloroethylene dissolves a little in water, but it can remain in ground water for a long time.
- Trichloroethylene quickly evaporates from surface water, so it is commonly found as a vapor in the air.
- Trichloroethylene evaporates less easily from the soil than from surface water. It may stick to particles and remain for a long time.
- Trichloroethylene may stick to particles in water, which will cause it to eventually settle to the bottom sediment.
- Trichloroethylene does not build up significantly in plants and animals.

How might I be exposed to trichloroethylene?

- Breathing air in and around the home which has been contaminated with trichloroethylene vapors from shower water or household products such as spot removers and typewriter correction fluid.
- Drinking, swimming, or showering in water that has been contaminated with trichloroethylene.
- Contact with soil contaminated with trichloroethylene, such as near a hazardous waste site.
- Contact with the skin or breathing contaminated air while manufacturing trichloroethylene or using it at work to wash paint or grease from skin or equipment.

How can trichloroethylene affect my health?

Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating.

Breathing large amounts of trichloroethylene may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage.

Drinking large amounts of trichloroethylene may cause nausea, liver damage, unconsciousness, impaired heart function, or death.

Drinking small amounts of trichloroethylene for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear.

Skin contact with trichloroethylene for short periods may cause skin rashes.

Trichloroethylene

CAS # 79-01-6

How likely is trichloroethylene to cause cancer?

Some studies with mice and rats have suggested that high levels of trichloroethylene may cause liver, kidney, or lung cancer. Some studies of people exposed over long periods to high levels of trichloroethylene in drinking water or in workplace air have found evidence of increased cancer. Although, there are some concerns about the studies of people who were exposed to trichloroethylene, some of the effects found in people were similar to effects in animals.

In its 9th Report on Carcinogens, the National Toxicology Program (NTP) determined that trichloroethylene is "reasonably anticipated to be a human carcinogen." The International Agency for Research on Cancer (IARC) has determined that trichloroethylene is "probably carcinogenic to humans."

Is there a medical test to show whether I've been exposed to trichloroethylene?

If you have recently been exposed to trichloroethylene, it can be detected in your breath, blood, or urine. The breath test, if it is performed soon after exposure, can tell if you have been exposed to even a small amount of trichloroethylene.

Exposure to larger amounts is assessed by blood and urine tests, which can detect trichloroethylene and many of its breakdown products for up to a week after exposure. However, exposure to other similar chemicals can produce the same breakdown products, so their detection is not absolute proof of exposure to trichloroethylene. This test isn't available at most doctors' offices, but can be done at special laboratories that have the right equipment.

Has the federal government made recommendations to protect human health?

The EPA has set a maximum contaminant level for trichloroethylene in drinking water at 0.005 milligrams per liter (0.005 mg/L) or 5 parts of TCE per billion parts water.

The EPA has also developed regulations for the handling and disposal of trichloroethylene.

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 100 parts of trichloroethylene per million parts of air (100 ppm) for an 8-hour workday, 40-hour workweek.

Glossary

Carcinogenicity: The ability of a substance to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or gas.

Milligram (mg): One thousandth of a gram.

Nonflammable: Will not burn.

ppm: Parts per million.

Sediment: Mud and debris that have settled to the bottom of a body of water.

Solvent: A chemical that dissolves other substances.

References

This ToxFAQs™ information is taken from the 1997 Toxicological Profile for Trichloroethylene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30329-4027.

Phone: 1-800-232-4636.

ToxFAQs™ Internet address via WWW is http://www.atsdr.cdc.gov/toxfaqs/index.asp.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATTACHMENT A-2

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ENVIROSTOR

301 12TH STREET FUTURE DEVELOPMENT (60002362)

SIGN UP FOR EMAIL ALERTS

301 12TH STREET
OAKLAND, CA 94607
ALAMEDA COUNTY
SITE TYPE: VOLUNTARY CLEANUP

PROJECT MANAGER: HAROLD (BUD) DUKE
SUPERVISOR: JOSE SALCEDO
OFFICE: NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA
PUBLIC PARTICIPATION SPECIALIST: VERONICA LOPEZ-VILLASENOR

Site Information

CLEANUP STATUS
ACTIVE AS OF 5/24/2016

SITE TYPE: VOLUNTARY CLEANUP
NATIONAL PRIORITIES LIST: NO
ACRES: 1.72 ACRES
APN: NONE SPECIFIED
CLEANUP OVERSIGHT AGENCIES:
DTSC - SITE CLEANUP PROGRAM - LEAD

ENVIROSTOR ID: 60002362
SITE CODE: 202101
SPECIAL PROGRAM: VOLUNTARY CLEANUP PROGRAM
FUNDING: SITE PROPONENT
ASSEMBLY DISTRICT: , 18
SENATE DISTRICT: , 09

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION
UNDERGROUND STORAGE TANKS, VEHICLE MAINTENANCE

POTENTIAL CONTAMINANTS OF CONCERN
PETROLEUM
TOXAPHENE
UNDER INVESTIGATION
VOLATILE ORGANICS (8260B VOCS)

POTENTIAL MEDIA AFFECTED
INDOOR AIR, OTHER GROUNDWATER AFFECTED (USES OTHER THAN DRINKING WATER), SOIL, SOIL VAPOR, UNDER INVESTIGATION

Site History

This EnviroStor project has two site codes. One site code (202101) for the buyer, and one site code (202097) for the seller.

The AMethod Public Schools Oakland Charter High School (high school) and Downtown Charter Academy (middle school) is located at 345 12th Street and 301 12th Street, respectively, in the city of Oakland, Alameda County (Site). The high school and middle school occupy conjoined 1-to 2-story buildings on the Site which are in the process of being sold for redevelopment.

In mid-May 2016, the Site was transferred from the Regional Water Quality Control Board to DTSC.

Initial draft reports identify that the location was a former automobile dealership and repair center. The property is currently owned by a trust (Richard S. Cochran and Susan L. Cochran Family Trust, et al.) and a cleanup agreement is pending. The property is being purchased by a developer (The Martin Group) who is expected to take ownership in July 2016. The buyer will enter into a California Land Reuse and Revitalization Act (CLRRA) clean-up agreement with DTSC separate from the clean-up agreement between DTSC and the seller.

As part of the due diligence process for the property purchase, the potential buyer collected soil, soil gas and groundwater samples from beneath the Site. Sample results showed elevated concentrations of trichloroethylene (TCE), along with other chlorinated solvents and petroleum hydrocarbons, and samples of indoor air were subsequently collected from the high school and middle school. Sampling results provided in May 2016 identified indoor air TCE concentrations in various rooms in the middle school ranged from 10 to 200 µg/m3, exceeding USEPA Region 9's Accelerated Response Action Level (ARAL) for residential direct exposure (2 µg/m3). Interim indoor air mitigation systems (recirculating air pump and granular activated carbon filters) were installed in the classrooms on May 18, 2016 and operated during off-hours. Confirmation indoor air samples were collected on May 24, 2016 and results indicated concentrations of TCE in indoor air had been reduced to less than the ARAL. DTSC on May 26, 2016 directed the school that the students and staff could return to the building as indoor air levels of TCE were reduced to below the ARAL for residential direct exposure.

Indoor air samples were collected from the high school and middle school on June 14, 2016. Sample results are expected to be received by DTSC the week of June 20th, 2016. Additional indoor air samples are planned to be collected the last week in June, and again in mid to late August of 2016 prior to start of the 2016/2017 school year.

The 2015/2016 school year was completed on June 10th, 2016. Summer school for the two campuses is scheduled for June 20th through July 8th, 2016. The 2016/2017 school year is scheduled to begin on August 24th, 2016.

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ATTACHMENT A-3

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

1640 5th St.., Suite 204 Santa
Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

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.

ATTACHMENT A-4

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Mobile: (530) 867-6202
Office: (310) 452-5555
Fax: (310) 452-5550
Email: jessie@swape.com

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***

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August 3, 2016

VIA EMAIL and HAND DELIVERY

Chair Jim Moore and
Planning Commission
Oakland City Hall
One Frank H. Ogawa Plaza, Hearing Room No. 1
Oakland, CA 94612

Christina Ferracane
Planner III
City of Oakland
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, CA 94612
Email: cferracane@oaklandnet.com

Re: Supplemental Comments on the CEQA Analysis for the W12 Mixed-Use Project (PLN16-133)

Dear Chair Moore, Honorable Members of the Oakland Planning Commission and Ms. Ferracane:

We write on behalf of Oakland Residents for Responsible Development to provide supplemental comments on the City of Oakland's analysis of the W12 Mixed-Use Project ("Project). We previously submitted comments to Ms. Ferracane on Tuesday August 2, 2016, and plan to hand-deliver them to the Commission at tonight's hearing. Immediately following our submission of the August 2 comments, which noted that the City had failed to provide us with all necessary information regarding air quality impacts and on-site hazards, the City then provided us with those documents.

We reviewed those additional documents with the help of experts Matt Hagemann and Jessie Jaeger of Soil / Water / Air Protection Enterprise ("SWAPE"). Their attached supplemental technical comments are submitted in addition to the

comments in this letter.[1] The curricula vitae of these experts were attached as exhibits to our August 2 comments. The documents reveal additional legal deficiencies in the City's analysis of hazards, as well as health risks and air quality during construction. In light of the fact that the City sent us these documents after close of business the night before the hearing, we hereby reserve the right to provide more detailed comments on these issues once we have had the opportunity to evaluate the documents in depth.

Regarding the City's air quality analysis, SWAPE finds that several of the assumptions used and values inputted into the Project's CalEEMod output files are inconsistent with information disclosed in the CEQA Analysis, thus undermining the accuracy of the model. These inconsistencies are discussed in detail in SWAPE's letter, and include (1) the City's failure to include parking land use in the model and (2) the City's incorrect assumption regarding the use of Level 3 DPF off-road equipment. Therefore, SWAPE concludes that the Project's construction emissions are artificially reduced and the City's CalEEMod air modeling should not be relied upon to determine Project significance.[2]

Regarding the Project's health risks from diesel particulate matter emissions, SWAPE conducted its own health risk assessment based on the CalEEMod files received from the City. SWAPE's model shows that the excess cancer risk to adults, children, and infants during Project construction for the sensitive receptors located 25 meters away are 6.76, 39, and 130 in one million, respectively.[3] The child and infantile exposure for the sensitive receptors far exceed the Bay Area Air Quality Management District threshold of 10 in one million.[4] As a result, SWAPE concludes that a refined health risk assessment must be prepared and included in an EIR.[5]

Regarding the Project's hazards, SWAPE reiterates the dangers of the highly contaminated site, including risks from TCE and other contaminants, and identifies additional hazards associated with the site, including:[6]

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[1] *See* Letter from Matt Hagemann and Jessie Jaeger, SWAPE, to Laura Horton re: Supplemental Comments on the W12 Mixed-Use Project (hereinafter, "SWAPE Comments"), August 3, 2016, **Attachment A**.
[2] *Id.*, at 1 – 3.
[3] *Id.*, at 6.
[4] *Id.*
[5] *Id.*
[6] *Id.*, at 7.

- A suspected waste oil underground storage tank (UST), exact location and regulatory status unknown;
- The presence of seven hydraulic lifts and two possible tanks associated with the hydraulic lifts at the southeastern part of the 301 and 345 12th Street portion of the site – no removal records were found in regulatory agency files;
- The presence of five historical aboveground storage tanks;
- The presence of an 800-gallon oil-containing UST;
- Use of the property for vehicle service and mechanical repair and the presence of a floor drain, in association with these activities;
- The presence of a floor drain in an area of paint and body repair;
- Numerous historical dry-cleaning and auto service facilities in proximity to the Project site.

SWAPE notes that "[n]o requirements for assessment and cleanup to concentrations that are health-protective of construction workers and future Project occupants are included in the Analysis."[7] Therefore, SWAPE concludes that an EIR is necessary to ensure that a thorough investigation is conducted prior to proceeding with soil excavation and Project construction, to determine if development as a residential community is appropriate on the proposed site.[8]

For these reasons and the reasons identified in our August 2 comments, we urge the City to revise its analysis, identify feasible mitigation measure and disclose its revised analysis in an EIR, as required by CEQA, before the City considers approval of the Project.

Sincerely,

Laura E. Horton

LEH:ric
Attachment

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[7] *Id.*
[8] *Id.*

3615-003rc

ATTACHMENT A

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

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Santa Monica, CA 90405
Matt Hagemann, P.G, C.Hg.
(949) 887-9013
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August 3, 2016

Laura E. Horton
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080

Subject: Supplemental Comments on the W12 Mixed-Use Project

Dear Ms. Horton:

We have reviewed the W12 Mixed-Use Project CEQA Analysis ("CEQA Analysis"), CalEEMod output files, and associated attachments/appendices for the proposed mixed-use development project ("Project") located in Oakland, California. The Project proposes to redevelop two parcels within the area of the Lake Merritt Station Area Plan (LMSAP) and plans to construct two buildings consisting of approximately 416 residential units, 317 parking spaces, and 25,050 square feet of retail space on approximately 1.72 acres. The LMSAP Environmental Impact Report (LMSAP EIR) was certified in 2014, and it analyzed program-level impacts associated with adoption and implementation of the LMSAP.

Our review concludes that the CEQA Analysis fails to adequately evaluate the Project's Air Quality and Hazards and Hazardous Waste impacts and construction health risks. A project-specific Draft Environmental Impact Report (DEIR) should be prepared to adequately address these issues and incorporate additional mitigation.

Air Quality and Greenhouse Gas

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The CEQA Analysis for the Project relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2013.2.2 ("CalEEMod").[1] CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but CEQA requires that such changes be justified by substantial evidence.[2] Once all the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These

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

output files disclose to the reader what parameters were utilized in calculating the Project's emissions, and make known which default values were changed as well as provide a justification for the values selected.[3]

When we reviewed the Project's CalEEMod output files, we found that several of the assumptions used and values inputted into the model were not consistent with information disclosed in the CEQA Analysis. As a result, a DEIR should be prepared to include an updated air pollution model that uses correct input values.

Failure to Include Parking Land Use

The proposed Project's CalEEMod output files utilized "Land Uses" inconsistent with information disclosed in the IS/MND. According to the CEQA Analysis, the Project proposes to include "317 on-site parking spaces" (p. 15). The CalEEMod output files, however, demonstrate that the model completely omitted the proposed parking land use (see excerpt below).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	510.00	Dwelling Unit	1.72	510,000.00	1051
Strip Mall	14.70	1000sqft	0.00	14,700.00	0
High Turnover (Sit Down Restaurant)	3.50	1000sqft	0.00	3,500.00	0

This omission in the proposed "Land Uses" presents a significant issue. The land use type and size features are used throughout CalEEMod in determining default variables and emission factors that go into the model's calculations. By omitting the parking land use from the model, the emissions that would be produced during construction of the proposed parking structure are greatly underestimated. Paving for the parking spaces involves laying concrete or asphalt, which will result in air pollutant emissions during construction.[4] Furthermore, emissions from architectural coating activities, electricity usage from outdoor lighting, ventilation, and elevators in the proposed parking structures are unaccounted for.[5] For example, the architectural coating emissions generated by painting the parking surface areas will be completely omitted from the CalEEMod model emission estimates as a direct result of failing to account for the parking land use. Therefore, an updated CalEEMod model must be prepared in order for the air quality assessment to accurately estimate Project emissions.

Incorrectly Assumed the Use of Level 3 DPF Off-Road Equipment

According to the CalEEMod output files, construction emissions were modeled assuming that all off-road equipment would be equipped with Level 3 diesel particulate filters (DPF). This assumption, however, is not reflected in the CEQA Analysis, and is therefore unsubstantiated. As a result, the County's CalEEMod model artificially reduced construction-related air pollutant emissions.

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[3] CalEEMod User Guide, p. 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.)
[4] CalEEMod User Guide, pp. 25, *available at:* http://www.caleemod.com/
[5] CalEEMod User's Guide, p. 3, *available at:* http://www.caleemod.com/

The User Entered Comments & Non-Default Data section of the CalEEMod model attempts to justify the model's reliance on Level 3 DPF off-road equipment by stating, "Level 3 DPF (VDECS) assumed as mitigation consistent with SCA 19." However, the Project's Standard Condition of Approval 19 (SCA 19), which is included as Attachment A of the CEQA Analysis, does not require the Project's fleet to consist solely of Level 3 DPF equipped vehicles. In fact, with regard to construction equipment, SCA 19 simply requires that all equipment meet emissions and performance requirements one year in advance of any fleet deadlines, that all construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO_x and PM, and that all off-road heavy diesel engines shall meet the California Air Resources Board's most recent certification standard (CEQA Analysis, Attachment A, p. A-5). SCA does not specify that the Project proponent use Level 3 DPF equipment. Additionally, nowhere in the CEQA Analysis is it stated that Level 3 DPFs are required for all construction equipment. Therefore, there is no credible basis on which to assume that the entire construction fleet will contain these filters. As a result of this unsubstantiated assumption, the Project's construction emissions are greatly underestimated.

A DEIR must be prepared to either explicitly state that Level 3 DPFs are a mandatory mitigation measure for all construction equipment, or a revised air quality analysis must be prepared that more accurately models the Project's construction air quality impact.

For the reasons discussed above, because the CEQA Analysis' CalEEMod model relies on input values that are not consistent with information disclosed in the CEQA Analysis, the Project's construction emissions are artificially reduced. Due to these inconsistencies, we find the CalEEMod model to be unreliable and inaccurate and conclude that it should not be relied upon to determine Project significance. An updated model should be prepared that more accurately represents the proposed Project's emissions.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The CEQA Analysis concludes that the health risk posed to nearby sensitive receptors from exposure to diesel particulate matter ("DPM") emissions released during Project construction would be less than significant, yet fails to quantify the risk and compare it to applicable thresholds (p. 38). The CEQA Analysis attempts to justify the omission of an actual health risk assessment ("HRA"), stating, "Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9,40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities" (p. 37). Furthermore, the CEQA Analysis states that, "The LMSAP EIR determined that sensitive receptors in proximity to construction-related DPM emissions (generally within 200 meters) could be subject to increased cancer risk, chronic health problems, and acute health risk. However, all future development projects pursuant to the LMSAP would be subject to basic construction control measures through implementation of the City's SCA's (SCA-A in the LMSAP, see Attachment A). SCA AIR-1, which requires "enhanced" construction emission control measures for of all residential development in excess of 240 units, would implement

construction-related Best Management Practices to substantially reduce construction-related impacts to a less-than-significant level" (p. 37-38). This justification, however, is incorrect.

Although the CEQA Analysis states that the Project would require to include construction control measures through implementation of Standard Conditions of Approval (SCAs), the risk must still be quantified to determine which measures must be applied to reduce DPM emissions and if the measures will reduce emissions to levels that will not cause a significant impact. The CEQA Analysis openly states that the LMSAP EIR determined that sensitive receptors may be subject to an increased cancer risk due to construction activities, so therefore the risk should be quantified in order to determine if the control measures will reduce DPM emissions to adequate levels, as required under CEQA.

Furthermore, the CEQA model assumes that because construction would occur over a short period of time, the health risk posed from construction activities would be negligible. This determination, however, is in contrast to the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations for health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.[6] This guidance document describes the types of projects that warrant the preparation of a health risk assessment. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a one-year construction period (CEQA Analysis, p. 35). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[7] This recommendation reflects the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive receptors from construction should be included in a revised CEQA evaluation for the Project. In an effort to demonstrate this, we prepared a simple screening-level health risk assessment. The results of our assessment, as described below, demonstrate that construction-related DPM emissions may result in a potentially significant health risk impact.

As of 2011, the EPA recommends AERSCREEN as the leading air dispersion model, due to improvements in simulating local meteorological conditions based on simple input parameters.[8] The model replaced SCREEN3, and AERSCREEN is included in OEHHA[9] and CAPCOA[10] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality

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[6] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html
[7] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18
[8] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[9] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf
[10] "Health Risk Assessments for Proposed Land Use Projects," CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary health risk screening assessment of the Project's construction emissions using the total exhaust PM_{10} emissions from the CEQA Analysis' CalEEMod output file. Unmitigated construction emissions were utilized because, as discussed previously, the Project's CalEEMod model incorrectly includes Level 3 DPF mitigation to the entire construction fleet, thereby artificially reducing construction emissions.

The output file indicates that construction activities will generate approximately 334.4 pounds of DPM over a 342-day construction period. The AERSCREEN model relies on a continuous average emissions rate to simulate maximum downwind concentrations from point, area, and volume emissions sources. To account for the variability in construction equipment usage over the six phases of Project construction, we calculated an average DPM emission rate by the following equation.

$$Emission\ Rate\left(\frac{grams}{second}\right) = \frac{334.4\ lbs}{342\ days} \times \frac{453.6\ grams}{lb} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} \approx 0.0081\ g/s$$

Construction activity was simulated as a 1.72 acre rectangular area source in AERSCREEN, with dimensions of 140 meters by 50 meters. A release height of three meters was selected to represent the height of exhaust stacks on construction equipment, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generated maximum reasonable estimates of single hour downwind DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant may be estimated by multiplying the single-hour concentration by 10%.[11] The maximum single-hour downwind concentration in the AERSCREEN output was approximately 15.85 $\mu g/m^3$ DPM 25 meters downwind, a distance that is most representative of sensitive receptor locations adjacent to the Project site. The annualized average concentration for the sensitive receptors was estimated to be 1.58 $\mu g/m^3$.

We calculated the excess cancer risk for each sensitive receptor location, for adults, children, and/or infant receptors using applicable HRA methodologies prescribed by OEHHA. OEHHA recommends the use of Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[12] According to the revised guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant), and by a factor of three for the subsequent fourteen years of life (child aged two until sixteen). Furthermore, in accordance with guidance set forth by the BAAQMD, we used 95th percentile breathing rates for infants and children and

[11] http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf
[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf

80th percentile breathing rates for adults.[13] We used a cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

Parameter	Description	Units	Adult	Child	Infant
C_{air}	Concentration	ug/m^3	1.58	1.58	1.58
DBR	Daily breathing rate	L/kg-day	302	581	581
EF	Exposure Frequency	days/year	350	350	350
ED	Exposure Duration	years	0.94	0.94	0.94
AT	Averaging Time	days	25550	25550	25550
	Inhaled Dose	(mg/kg-day)	6.1E-06	1.2E-05	1.2E-05
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1	1.1
ASF	Age Sensitivity Factor	-	1	3	10
	Cancer Risk		**6.76E-06**	**3.90E-05**	**1.30E-04**

The excess cancer risk to adults, children, and infants during Project construction for the sensitive receptors located 25 meters away are 6.76, 39, and 130 in one million, respectively. Consistent with OEHHA guidance, exposure was assumed to begin in the infantile stage of life to provide the most conservative estimates of air quality hazards. The child and infantile exposure for the sensitive receptors exceed the BAAQMD threshold of 10 in one million. As a result, a refined health risk assessment must be prepared and included in a DEIR to examine air quality impacts generated by Project construction using site-specific meteorology and specific equipment usage schedules.

It should be noted that the Project's health risk impact may be greater than what is estimated in our independent screening-level assessment, as the DPM emission value relied upon to conduct this analysis was taken from the CEQA Analysis' CalEEMod model. As was discussed in the previous sections, the CalEEMod model relies upon incorrect input parameters that artificially reduce the Project's construction emissions. Therefore, the health risk posed to nearby sensitive receptors as a result of Project construction may be greater.

Even though our assessment may still underestimate the Project's health risk impact, our analysis still demonstrates that the Project poses a significant health risk as a result of exposure to DPM emissions. Therefore, a revised DEIR must be prepared to adequately evaluate the Project's health risk impact. Furthermore, the reductions from proposed mitigation measures should be quantified to determine if the impact can be reduced to a less than significant impact.

Hazards and Hazardous Waste

The Project overlies a contaminated site included on the Cortese List (the 301 12th Street parcel) as acknowledged in the Analysis. Other parcels underlying the Project site are also potentially contaminated. The CEQA Analysis fails to acknowledge that contaminants underlying the Project site

[13] "Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines," BAAQMD, January 2010, *available at:* http://www.baaqmd.gov/~/media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, p. 2-3

have recently been found in excess of screening levels in the indoor air of existing buildings and that cleanup has yet to commence. Project construction should not be allowed until a DEIR has been prepared to document that a thorough assessment and cleanup of the contamination has been completed under regulatory oversight and that a residential land use is appropriate.

The 301 12th Street Parcel (known on Envirostor as "301 12th Street Future Development"[14]) is a former automobile dealership and repair center. According to Envirostor, a cleanup agreement is pending between the developer (The Martin Group) and the California Department of Toxics Substances Control.[15] The 345 12th Street parcel, also underlying the Project site, was used for vehicle parking, tune-up and alignment, and mechanical repair where hydraulic lifts were used, according to a July 14, 2016 Phase I Environmental Site Assessment prepared for the Project site.[16]

Soil, soil gas and groundwater samples collected from beneath the 301 12th Street Future Development site showed elevated concentrations of trichloroethylene (TCE), along with other chlorinated solvents and petroleum hydrocarbons. The indoor air of the school that is currently located on the property was assessed in May 2016. The concentrations of TCE in indoor air in the school ranged from 10 to 200 µg/m3, greatly exceeding US EPA Region 9's Accelerated Response Action Level (ARAL) for residential direct exposure (2 µg/m3).[17] A ventilation system has reduced concentrations of TCE in indoor air to less than the ARAL. On May 26, 2016, DTSC notified the school that indoor air levels of TCE had been reduced to below the ARAL for residential direct exposure. Whereas the ventilation system has been effective in reducing the indoor air concentrations of TCE, no cleanup has been conducted and no comprehensive evaluation of the source of the TCE and the other chlorinated solvents in the subsurface has been initiated.

A completed vapor intrusion pathway -- whereby TCE and other chlorinated compounds, move from contaminated groundwater, soil, and soil vapor into the air within overlying buildings – has been demonstrated at the Project site and remains viable. TCE is a cancer-causing agent[18] that would pose risks to construction workers and future residents unless the pathway is cut off. The vapor intrusion pathway will remain complete at the Project site until a comprehensive investigation and a remedial effort, where the source of the TCE is removed, has been completed.

The CEQA Analysis does not provide for any mitigation that would target and remove the source of TCE and other chlorinated compounds. The CEQA Analysis only provides for general provisions to address the contamination and only after earth-moving activities are initiated. SCA HAZ-1 and SCA-2 call for implementation of best management practices and measures for dealing with "unexpected" soil contamination that is visually discolored or that is emanating an odor. This is entirely inappropriate for a site where groundwater, soil and soil vapor are known to have been contaminated with TCE. TCE-

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[14] http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002362
[15] Ibid.
[16] Phase I Environmental Site Assessment for 301, 345, and 285 12th Street (Site) in Oakland, California, Langan Treadwell Rollo, July 14, 2016
[17] Ibid.
[18] http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=172&tid=30

contaminated sites can be extremely difficult to assess and remediate to health protective levels. TCE contamination is often found in the form of a dense non-aqueous phase liquid (DNAPL) where pools or layers of leaked TCE accumulates on low-permeability clays in the subsurface. These DNAPLs may be below the area to be excavated and may represent a residual, ongoing source of contamination via the vapor intrusion pathway that would be unaddressed during construction because it would be below the level of Project excavation.

Reliance on SCA HAZ-1 and SCA-2 is also falls short in protecting construction workers and future occupants from other potential sources of contamination at the Project site which, according to the Phase I ESA, include:

- a suspected waste oil underground storage tank (UST), exact location and regulatory status unknown;
- the presence of seven hydraulic lifts and two possible tanks associated with the hydraulic lifts at the southeastern part of the 301 and 345 12th Street portion of the site – no removal records were found in regulatory agency files;
- the presence of five historical aboveground storage tanks;
- the presence of an 800-gallon oil-containing UST;
- use of the property for vehicle service and mechanical repair and the presence of a floor drain, in association with these activities;
- the presence of a floor drain in an area of paint and body repair;
- numerous historical dry-cleaning and auto service facilities in proximity to the Project site.

No requirements for assessment and cleanup to concentrations that are health-protective of construction workers and future Project occupants are included in the Analysis. Instead, the CEQA Analysis assumes that whatever contamination that may be seen or smelled from this myriad of known and suspected contamination sources during grading or trenching will be addressed through undefined BMPs.

Prior to proceeding with soil excavation and Project construction, a thorough investigation of the contamination at the site is necessary to determine if development as a residential community is appropriate. To ensure that the investigation is thorough, DTSC oversight is necessary. DTSC oversight of the cleanup of the Project site is also necessary for the protection of the health of future residents and workers.

The known TCE contamination in groundwater and any residual source of TCE contamination below the water table also poses a water quality issue during dewatering. The Analysis states that “some dewatering may be required for Project construction” but the Analysis fails to consider that groundwater that is dewatered is known to be contaminated with TCE and other compounds. Contaminated groundwater that is generated from the dewatering process needs to be handled and disposed in accordance with the San Francisco Bay Regional Water Quality Control Board’s NPDES

General Permit requirements.[19] A DEIR needs to be prepared to identify the Regional Board's dewatering requirements and how they will be met during Project construction.

Sincerely,

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

Jessie Jaeger

[19] http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0060.pdf