ADAMS BROADWELL JOSEPH & CARDOZO
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037
TEL: (650) 589-1660
FAX: (650) 589-5062
lmiles@adamsbroadwell.com

SACRAMENTO OFFICE
520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4715
TEL: (916) 444-6201
FAX: (916) 444-6209

DANIEL L. CARDOZO
THOMAS A. ENSLOW
PAUL F. FOLEY*
TANYA A. GULESSERIAN
MARC D. JOSEPH
RACHAEL E. KOSS
LOULENA A. MILES
GLORIA D. SMITH

OF COUNSEL
THOMAS R. ADAMS
ANN BROADWELL

*Licensed in New York only

Letter 4

February 4, 2009

Ken Strelo
Senior Planner
City of Oakley
3231 Main Street
Oakley, CA 94561
Email: strelo@ci.oakley.ca.us

Re: Comments on the Emerson Property Project DEIR

Dear Mr. Strelo:

We are writing on behalf of the Oakley Coalition for Responsible Development[1] ("Coalition") to provide comments on the Draft Environmental Impact Report ("DEIR") for the Emerson Property in the City of Oakley ("Project"). The Coalition's review revealed that the DEIR failed to adequately analyze or mitigate a number of potentially significant impacts of the Project. As is explained more fully below, the DEIR does not comply with the requirements of the California Environmental Quality Act ("CEQA"). The City may not approve the Project or grant any permits for the Project until an adequate Environmental Impact Report ("EIR") is prepared and circulated for public review and comment.

4-1

I. INTRODUCTION AND SUMMARY OF COMMENTS

A. Interest of the Coalition

The members of the Coalition have a strong interest in enforcing environmental laws such as CEQA. Its members reside and work in the City of

[1] The Oakley Coalition for Responsible Development is comprised of residents of the City of Oakley, including James Fessenden, Patrick Jensen, Hershel Barton, George Seligman, Daniel Gutierrez, Robert Howard and Virgil De La Grange, UA Plumbers and Steamfitters, Local 159, the International Brotherhood of Electrical Workers, Local 302, Sheet Metal Workers, Local 104 and their members and their families and other individuals that live and/or work in the City of Oakley and Contra Costa County.

2088-011a

printed on recycled paper

Letter 4
Cont'd

Oakley and Contra Costa County and individual members of the Coalition may work on the Project itself. The individual members who work on the Project are the first in line to be exposed to any contaminated soils that have not been adequately tested, identified and remediated, and would also be directly exposed to toxic air contaminants and any other unmitigated safety hazards that may exist on the site.

The individual Coalition members who live, work and raise their families in the City of Oakley will be exposed to construction emissions and public health and safety hazards identified in these comments, and will be directly affected by increased traffic impacts in an area already dangerously congested. Coalition members also live in and use areas that have suffered the cumulative impacts of other environmentally detrimental and poorly planned projects in rapidly developing east Contra Costa County. For all these reasons, Coalition members will be directly and disproportionally affected by the environmental impacts of the Project.

4-1 The Coalition supports environmentally sound land use and development in the City of Oakley and Contra Costa County. The Project site and design raise a potential for significant impacts on public health and safety and the environment that must be carefully considered. 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 here. Indeed, continued degradation can, and has, caused construction moratoria and other restrictions on growth that, in turn, reduce future employment opportunities. In particular, poor air quality and traffic congestion has already harmed the economy of the region. Finally, Coalition members are concerned about projects that carry serious environmental risks and public service infrastructure demands without providing countervailing employment and economic benefits to local workers and communities.

B. Summary of Comments

The DEIR describes a development with 578 residential units in five neighborhoods and a 23.74-acre commercial development that includes a shopping center designed to house a large anchor tenant such as a Target or Home Depot, a gas station with 16 fueling stations, a high-volume drive-through bank or restaurant, levees, a stormwater detention pond, a 4-acre park and associated infrastructure. The Project site is undeveloped and consists of mostly grassland and active agriculture adjacent to sloughs that drain to the Delta. The site has a

**Letter 4
Cont'd**

number of known hazards such as nitrate contamination, pesticide contamination, a natural gas well, a natural gas pipeline, in addition to possible asbestos, lead, and waste oil. The site is also in a highly impacted area for traffic congestion.

As discussed below, the information that is provided by the DEIR and by the attached documents demonstrate that the Project has a number of significant unmitigated adverse environmental impacts. The DEIR must be redrafted to include further analysis and mitigation and recirculated for public review and comment.

4-1

In particular, the Project may result in unanalyzed and unmitigated significant impacts in the following areas: (1) air quality; (2) climate change; (3) traffic; (4) biological resources; (5) hydrology and water quality; (6) public health and safety; and (7) cumulative impacts. A revised DEIR is required to analyze these impacts and to mandate implementation of feasible mitigation measures that could drastically reduce these impacts.

II. CEQA REQUIRES THE DISCLOSURE OF ALL POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND THE INCORPORATION OF ALL FEASIBLE MITIGATION MEASURES NECESSARY TO REDUCE SUCH IMPACTS TO A LEVEL OF INSIGNIFICANCE

CEQA has two basic purposes, neither of which the DEIR satisfies. First, CEQA is designed to inform decision-makers and the public about the potential, significant environmental effects of a project before harm is done to the environment.[2] 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 project alternatives.[3]

4-2

A central purpose of an EIR is to "identify ways that environmental damage can be avoided or significantly reduced."[4] If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has

---

[2] 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1); *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.

[3] CEQA Guidelines § 15002(a)(2) and (3); *Berkeley Jets,* 91 Cal.App.4th 1344, 1354; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal.3d 376, 400 [253 Cal. Rptr. 426, 436]).

[4] CEQA Guidelines §15002(a)(2).

2038-011a

Letter 4
Cont'd

"eliminated or substantially lessened all significant effects on the environment where feasible," and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081.[5]

4-2 In this case, the DEIR fails to satisfy the basic purposes of CEQA. The City must correct these inadequacies and recirculate a new or revised DEIR for public review and comment. We have prepared these supplemental comments with the assistance of technical experts including Dr. Petra Pless, Matt Hagemann P.G., and Tom Brohard, P.E. Their comments and curriculum vitae are attached hereto as Exhibits 1-3. Please note that these experts' comments supplement the issues addressed below and should be addressed and responded to separately.

A. THE PROJECT DESCRIPTION IS INADEQUATE

The DEIR's project description states that the commercial portion of the site would accommodate "pads for four major retail tenants, a garden center, two retail pads for smaller shops, and four smaller pads located in the southern portion of the site for restaurants, banks or similar uses."[6]

4-3 The DEIR's project description provides no further details about the likely future "major retail tenants" or "similar uses." Based on the size of Pad 1, 154,900 sq. ft., and the fact that it would be located next to a garden center it appears likely that the Applicant expects a Target, Home Depot or similar store to occupy this pad. Buried in Appendix D, Transportation and Circulation, is the information that the shopping center would be "anchored by a supermarket."[7] Large discount stores and supermarkets generate more vehicle trips and associated air pollutant emissions than most other land uses. Further, the DEIR's project description does not describe the drive-through lane located at Pad 3, which indicates either a fast food restaurant or a bank. A fast-food restaurant would generate considerably more traffic and associated air pollutant emissions than a bank. It is therefore critical that the DEIR contain information about the prospective future tenants and retail uses to allow for an adequate analysis of the Project's potential impacts, *e.g.*, on traffic, air quality, noise, etc.

[5] CEQA Guidelines § 15092(b)(2)(A)-(B).
[6] Emerson DEIR, p. 3-12.
[7] Emerson DEIR, Appendix D, p. 3.7-1
2038-011a

Letter 4
Cont'd

4-4 The DEIR's project description also makes no mention of the fact that the Project would include a gas station located at the southwest corner of the proposed commercial portion of the Project site adjacent to Cypress Road.[8] Based on the site map for the commercial portion of the Project site, it appears that the gas station would accommodate 16 to 18 fueling positions. The summary of square footage on the site map does not include the gas station.[9] The potential impacts of the gas station are discussed in the hazards and noise sections of the DEIR, but are not mentioned or analyzed elsewhere. For example, the potential impacts on air quality and health risks due to criteria air pollutant and toxic air contaminant emissions from the gasoline dispensing station and associated vehicle traffic were not analyzed. The proposed gas station would require an operating permit from the Bay Area Air Quality Management District ("BAAQMD"), which requires a health risk assessment ("HRA") to be prepared as part of the BAAQMD's permit process pursuant to BAAQMD Rule 8-7 "Gasoline Dispensing Facilities" and BAAQMD Rule 2-2 "New Source Review." Thus, the DEIR should cite to the required compliance with these rules and provide the results of the health risk assessment to fully disclose all impacts associated with Project components.

4-5 The DEIR's project description also fails to mention the fact that the major retail store on Pad 1 would locate three loading docks within 45 feet from the nearest residential area to the north.[10] As will be further discussed, the potential health risks, including increased cancer risks associated with diesel particulate emissions from trucks accessing and idling at the loading docks, have not been analyzed in the DEIR's air quality section. The DEIR should be revised to include the results of a health risk assessment for diesel particulate matter from truck engine exhaust.

4-6 In sum, the DEIR's project description is seriously deficient. As a result, the DEIR's analyses of potential impacts are flawed and fail to disclose all potential impacts resulting from the Project. The DEIR should be revised to contain an adequate detailed project description that discloses all proposed future uses. The revised DEIR must adequately analyze potential impacts associated with these uses.

[8] Emerson DEIR, p. 4.5-18.
[9] Emerson DEIR, Figure 3-4 "Commercial Site Map," p. 3-13.
[10] *Ibid.*
2038-011a

Letter 4
Cont'd

B. THE DEIR FAILS TO ANALYZE AND MITIGATE SIGNIFICANT AIR QUALITY IMPACTS

1. The DEIR Fails to Analyze Significant Adverse Impacts on Air Quality Due to Criteria Pollutant Emissions from Construction Equipment

4-7 The DEIR does not quantify or mitigate criteria pollutant emissions from construction equipment engine exhaust. Instead, the DEIR relies on the BAAQMD's outdated CEQA Guidelines – by now almost a decade old – claiming that emissions of ozone precursors, i.e. reactive organic gases ("ROG") and nitrogen oxides ("NOx"), and carbon monoxide ("CO") from construction equipment "are already included in the emission inventory that is the basis for regional air quality plans, and thus are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area." Consequently, the DEIR does not require any mitigation measures to address construction equipment exhaust.

4-8 The Bay Area, including Contra Costa County, continues to exceed federal and state ambient air quality standards for ground-level ozone. The Bay Area is currently designated as non-attainment for compliance with the state 1-hour ambient air quality standard for ozone and non-attainment for compliance with the federal 8-hour ambient air quality standard for ozone. The DEIR's failure to analyze, including quantify, the Project's contribution to the existing regional ozone problem and to require all mitigation measures available reduce such emissions to the extent feasible, violates CEQA standards for the analysis of impacts in a DEIR. Feasible mitigation measures that are routinely required as CEQA mitigation in other air districts with similar problems are discussed later in this comment.

4-9 In addition, the DEIR fails to consider the potential emissions from various pre-construction Project components. These Project components include the demolition of existing structures on the Project site and potentially required site cleanup activities to remove contamination of soils and groundwater. Emissions from these activities should be quantified and adequately mitigated in a revised and recirculated DEIR.

2038-011a

Letter 4
Cont'd

2. The DEIR Fails to Adequately Analyze and Mitigate Diesel Exhaust Emissions from Construction Equipment

Heavy-duty diesel-powered construction equipment exhaust would release considerable amounts of diesel particulate matter during the buildout of the Project. Diesel exhaust contains nearly 40 toxic substances. In 1998, the California Air Resources Board ("CARB") formally identified the particulate fraction of diesel exhaust as a toxic air contaminant and concluded that exposure to diesel exhaust particulate matter causes cancer and acute respiratory effects.[11] The U.S. Environmental Protection Agency ("U.S. EPA") followed suit in 2002 and determined diesel exhaust as a probable human carcinogen. Diesel exhaust is estimated to contribute to more than 70 percent of the added cancer risk from air toxics in the United States.[12]

4-10

The DEIR recognizes that particulate matter emissions from diesel-fueled engines contain toxic air contaminants ("TACs") and acknowledges the associated potential cancer risks. Yet, the DEIR concludes, without any quantitative analysis whatsoever, that due to the temporary nature of construction and the generally up-wind location of the construction site, the impacts would be less than significant.[13]

The DEIR's analysis of construction diesel emissions is legally deficient because it fails to consider such emissions on a cumulative basis. The DEIR fails to recognize that the substantial diesel engine exhaust emissions that are associated with operating construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with countless other construction projects in Contra Costa County and the Bay Area. Because these emissions result in cumulatively and regionally significant public health impacts, CEQA requires that each project individually make the best effort to reduce emissions of carcinogenic diesel exhaust.

4-11

Lagging emission standards and very old equipment in the fleet have made construction equipment one of the largest sources of toxic diesel exhaust particulate pollution in California. An estimated 70 percent of California's construction

4-12

[11] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.
[12] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf, accessed December 8, 2008.
[13] Emerson DEIR, pp. 4.4-14 – 4.4-15.
2038-011a

Letter 4
Cont'd

equipment is currently not covered by federal and state regulations because it is too old.[14] Clouds of soot emitted by heavy-duty construction equipment can travel downwind for miles, then drift into heavily populated areas. A recent analysis found that air pollution from diesel construction equipment is already taking a heavy toll on the health and economic well-being of Californians.

4-12 Cont'd

A recent study found that the San Francisco Bay Area air basin is second only to the South Coast air basin in health and economic damage from construction equipment emissions. For 2005, this includes estimates of more than 150 premature deaths, nearly 120 hospitalizations for respiratory and cardio-vascular disease, more than 280 cases of acute bronchitis, more than 3,400 incidences of asthma attacks and other lower respiratory symptoms, 44,000 days of lost work and school absences, and well over 10,000 days of restricted activity. This loss of life and productivity cost the residents of the Bay Area air basin an estimated $1.2 billion. The nearby cities of Antioch and Brentwood fall in the top 10 percent of Construction Risk Zones in the Bay Area because of the large amount of acreage under construction. *See* Figure 1 below.[15,16]

---

[14] Los Angeles Times, Dire Health Effects of Pollution Reported, Diesel Soot from Construction Equipment Is Blamed for Illnesses and Premature Deaths, December 6, 2006; http://www.distributedworkplace.com/DW/News/California/Dire%20health%20effects%20of%20pollution%20reported.doc, accessed February 2, 2009.

[15] These estimates are conservative because they do not include emissions from a large number of small construction projects (residential and commercial and projects smaller than 1 acre in size). Further, John Hakel, vice president of the Associated General Contractors, which represents construction equipment fleet owners and general contractors, indicated that the report appeared to underestimate the sheer volume of construction equipment.

[16] Union of Concerned Scientists, Digging up Trouble, November 2006; http://www.ucsusa.org/assets/documents/clean_vehicles/digging-up-trouble.pdf, accessed December 8, 2008; attached as Exhibit 1.

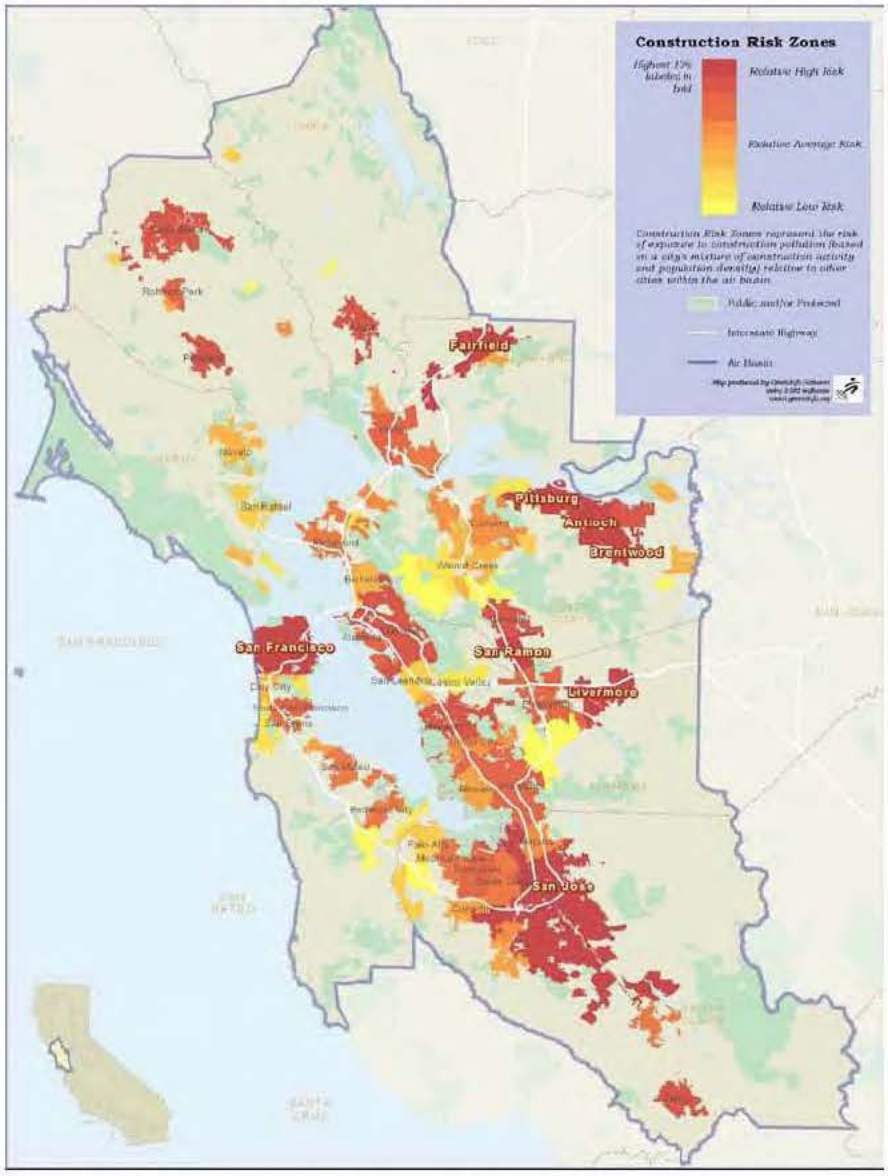
2038-011a

February 4, 2009
Page 9

Letter 4
Cont'd

4-12
Cont'd

Figure 1: Construction Pollution Risk in the San Francisco Bay Area Air Basin



From: Union of Concerned Scientists, Digging up Trouble, November 2006

2038-011a

**Letter 4
Cont'd**

Because the DEIR erroneously concludes that diesel particulate emissions from construction equipment would be less than significant, it fails to require any mitigation measures to address these emissions. The DEIR should be revised to address diesel particulate matter emissions and require all feasible mitigation.

4-13

3. Mitigation Measures to Reduce Exhaust Emissions from Construction Equipment are Feasible and Should Be Required

There are a number of cost-effective measures available that can substantially reduce construction equipment exhaust emissions. Options for controlling emissions from construction equipment include requiring the use of best practices in construction management and the use of new or newer equipment. Emissions from older construction equipment can be dramatically reduced by following the five "Rs" of emissions reduction, *i.e* refuel, replace, rebuild, repower, and retrofit. Both CARB and U.S. EPA maintain lists of recommended diesel retrofit alternatives and alternative fuels. Alternative fuels in combination with retrofit technologies or in new construction equipment can achieve emission reductions of up to 89 percent PM10, 90 percent CO, 93 percent ROG, and 40 percent NOx depending on the engine type of on-road or off-road equipment.[17,18] A combination of these options provides the greatest benefit and is frequently required as CEQA mitigation for other residential development projects. Feasible mitigation measures include:

4-14

- Require the contractor to use only newer construction equipment or equipment that is retrofitted to meet Tier 2 or higher emission standards set by the U.S. EPA.
- Require the contractor to submit a comprehensive inventory (*i.e.* make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours or more for the construction project. Require the contractor to submit for approval a plan demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned,

[17] U.S. Environmental Protection Agency, Voluntary Diesel Retrofit Program, Verified Products; http://www.epa.gov/otaq/retrofit/verif-list.htm, accessed February 2, 2009.
[18] California Air Resources Board, Currently Verified Technologies, http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm; accessed February 2, 2009.
2038-011a

Letter 4 Cont'd

leased and subcontractor vehicles, will achieve a project-wide fleet average 40 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average.

- Require the use of construction equipment meeting the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, §2423(b)(1) unless such engine is not available for a particular item of equipment. Require construction equipment engines to meet Tier 1 California standards if equipment with engines that meet Tier 2 standards are not available(unless such engine is not available for a particular item of equipment). Require that the construction company maintain documentation in the event that the required Tier 2 or Tier 1 equipment is not available within the area or within a reasonable timeframe.

4-14 Cont'd

- Require that construction equipment that does not meet, at a minimum, Tier 1 standards, be retrofitted with one, or a combination, of the following post-combustion controls: (If retrofitting pre-Tier 1 equipment is not feasible, require that the contractor document why retrofitting is not feasible.)
  a. Diesel particulate filters
  b. Diesel oxidation catalysts
  c. Selective catalytic reduction
  d. Lean NOx catalysts
  e. Exhaust gas recirculation
- For pre-Tier 1 equipment which cannot be reasonably retrofitted, use alternative power, alternative fuels, and/or fuel additives instead, such as:
  a. Emulsified (aqueous) diesel fuel
  b. Fuel borne-catalysts
  c. Compressed natural gas or liquefied natural gas
  d. Propane, ethanol, and methanol
  e. Electric power
- Instead of a diesel-powered generator, provide for on-site electrical service for hand tools such as saws, drills, and compressors.
- Limit idling time to 3 minutes for all construction equipment and haul trucks.
- Provide for on-site meals for construction workers by arranging a lunch wagon to visit the construction site.

2038-011a

Letter 4
Cont'd

4. The DEIR Fails to Adequately Mitigate Fugitive Dust Emissions

Again relying on the BAAQMD's *CEQA Guidelines*, the DEIR concludes that potential impacts from emissions of fugitive dust particulate matter would be considered less than significant if all BAAQMD-recommended mitigation measures are implemented.[19] Yet, the DEIR fails to require several control measures that the BAAQMD strongly recommends at construction sites that are "large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions." These mitigation measures include:

4-15

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading and other construction activity at any one time.[20]

Because the Project site is large in size and located adjacent to a residential development to the east and several residences to the south, implementation of these mitigation measures should be required for Project construction.

In addition, there are numerous additional relevant and reasonable measures contained in the CEQA Guidelines and rules of air districts and other agencies that should be required for this Project. Further, several agencies have conducted comprehensive studies of fugitive dust control measures to bring their region into compliance with national ambient air quality standards on PM10. For example, the South Coast Air Quality Management District ("SCAQMD") has sponsored research, passed regulations (*e.g.*, Rule 403),[21] and published guidelines that identify best management practices for controlling fugitive dusts at construction sites. The *Rule*

[19] Emerson DEIR, p. 4.4-13.
[20] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, 1999, Table 2, p. 15.
[21] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403, Fugitive Dust and Proposed Rule 1186, PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations, February 14, 1997.
2088-011a

Letter 4 Cont'd

4-15 Cont'd

403 Implementation Handbook[22] contains a comprehensive list of such measures. Clark County, Nevada, has also sponsored research, passed regulations (Rule 94), and published best management practices for controlling fugitive dust from construction activities.[23] Clark County's *Construction Activities Notebook* contains a comprehensive list of best management practices. Similarly, Arizona has developed guidance to control fugitive PM10 emissions.[24] Examples of such feasible mitigation measures include:

- For large tracts of disturbed land, prevent access by fencing, ditches, vegetation, berms, or other barriers; install perimeter wind barriers 3 to 5 feet high with low porosity; plant perimeter vegetation early; and for long-term stabilization, stabilize disturbed soil with dust palliative or vegetation or pave or apply surface rock. (CCHD)
- In staging areas, limit size of area; apply water to surface soils where support equipment and vehicles are operated; limit vehicle speeds to 15 mph; and limit ingress and egress points. (CCHD)
- For stockpiles, maintain at optimum moisture content; remove material from downwind side; avoid steep sides or faces; and stabilize material following stockpile-related activity. (CCHD)
- To prevent trackout, pave construction roadways as early as possible; install gravel pads; install wheel shakers or wheel washers, and limit site access. (CCHD, SLOCAPCD)
- When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. (BAAQMD, SJVUAPCD, Rule 403 Handbook, ADEQ) *(Maintain at least 12 inches of freeboard.)* (SLOCAPCD)
- Where feasible, use bedliners in bottom-dumping haul vehicles. (Rule 403 Handbook)

---

[22] South Coast Air Quality Management District, Rule 403 Implementation Handbook, January 1999.
[23] P.M. Fransioli, PM10 Emissions Control Research Sponsored by Clark County, Nevada, Proceedings of the Air &Waste Management Association's 94th Annual Conference & Exhibition, Orlando, FL, June 24-28, 2001.
[24] Arizona Department of Environmental Quality (ADEQ), Air Quality Exceptional and Natural Events Policy PM10 Best Available Control Measures, June 5, 2001.
2038-011a

Letter 4
Cont'd

4-15
Cont'd

- Grade each phase separately, timed to coincide with construction phase or grade entire project, but apply chemical stabilizers or ground cover to graded areas where construction phase begins more than 60 days after grading phase ends. (Rule 403 Handbook)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. (SJVUAPCD, ADEQ)
- During initial grading, earth moving, or site preparation, projects 5 acres or greater may be required to construct a paved (or dust palliative treated) apron, at least 100 ft in length, onto the project site from the adjacent site if applicable. (BCAQMD)
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hrs. (BCAQMD, MBUAPCD, CCHD)
- Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions. (BCAQMD)
- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads. (SBCAPCD)
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. (SBCAPCD, SLOCAPCD)
- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans. (SBCAPCD, SLOCAPCD)
- All roadways, driveways, sidewalks, etc., to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. (SLOCAPCD)
- Barriers with 50 percent or less porosity located adjacent to roadways to reduce windblown material leaving a site. (Rule 403 Handbook)
- Limit fugitive dust sources to 20 percent opacity. (ADEQ)

2038-011a

Letter 4 Cont'd

– Require a dust control plan for earthmoving operations. (ADEQ)

4-15 Cont'd Many of these mitigation measures are frequently required as CEQA mitigation and are equally feasible for construction of the Project. The City should require all feasible mitigation to protect the health of its residents.

5. Project Impacts on Air Quality and Public Health are not Adequately Analyzed and Not Adequately Mitigated

4-16 The DEIR finds that Project impacts related to regional air pollutant emissions would be potentially significant and that the cumulative effects of the Project on air quality would also be potentially significant. The DEIR concludes that regional and cumulative impacts would remain significant and unavoidable after implementation of a number of proposed mitigation measures. As discussed in the following comments, the DEIR significantly underestimates emissions from the Project, fails to analyze potential health risks associated with toxic air contaminant emissions, and fails to implement all feasible mitigation measures to reduce the Project's significant impacts on local and regional air quality. The DEIR should be revised to address these issues.

6. The DEIR Fails to Adequately Address PM2.5 Emissions

4-17 Historically, health impacts due to particulate matter were regulated through ambient air quality standards for particulate matter smaller than 10 micrometers ("PM10"). A substantial amount of new research has been published, however, documenting health impacts at much lower concentrations and for different size fractions of particulate matter than was previously known and reflected in ambient air quality standards.[25,26] This new information led the U.S. EPA and California to propose new ambient air quality standards for particulate matter smaller than 2.5 micrometers ("PM2.5"). These standards are not subsets of the existing PM10 standards, but new standards for a separate pollutant with distinguishable impacts on human health. As illustrated by the State and Federal ambient air quality standards, these effects occur at different concentrations for each pollutant. For example, the State annual ambient air quality standards for PM10 and PM2.5 are 20 micrograms per cubic meter ("$\mu g/m^3$") and 12 $\mu g/m^3$,

[25] U.S. Environmental Protection Agency, Air Quality Criteria for Particulate Matter, Report EPA/600/P-95-001aF through 001cF, April 1996.
[26] U.S. EPA, Air Quality Criteria for Particulate Matter, Second External Review Draft, March 2001.
2038-011a

Letter 4 Cont'd

respectively, indicating that health effects associated with PM2.5 occur at considerably lower mass concentrations than health effects associated with PM10.

Despite the establishment of federal and state ambient air quality standards for PM2.5 more than a decade ago, the BAAQMD has not developed a threshold of significance for this pollutant. To analyze the significance of this pollutant, the DEIR states that for purposes of its analysis, PM2.5 impacts would be considered significant if project emissions of PM10 exceed 80 pounds per day.[27] Consequently, the DEIR does not quantify PM2.5 emissions. This "evaluation" of PM2.5 is inadequate.

4-17 Cont'd

To understand the Project's potential individual and cumulative adverse impacts on public health and welfare, it is important to understand the severity of health impacts caused by elevated concentrations of PM2.5 in the ambient air. Since 1996, more than 2,000 peer-reviewed studies have been published validating earlier epidemiologic studies that link both acute and chronic fine particle pollution with serious morbidity and mortality. This research has also expanded the list of health effects associated with fine particle pollution and has identified health effects at considerably lower exposure levels than previously reported. Overwhelming scientific evidence shows that long-term exposure to fine particulate air pollution contributes to pulmonary and systemic oxidative stress, inflammation, progression of atherosclerosis, and risk of ischemic heart disease and death.

A recent study found that each 10-µg/m^3 increase in PM2.5 air pollution was associated with approximately a 6 percent increase in cardiopulmonary mortality and an 8 percent increase in lung cancer mortality.[28] Short-term exposure is equally damaging and contributes to complications of atherosclerosis, such as plaque vulnerability, thrombosis, and acute ischemic events. The U.S. EPA concluded with respect to short-term exposure studies, that "epidemiological evidence was found to support likely causal associations between PM2.5 and both mortality and morbidity from cardiovascular and respiratory diseases."[29] In

---

[27] Emerson DEIR, p. 4.4-12.
[28] A.A. Pope III, R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Ito, G.D. Thurston, Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, Journal of the American Medical Association, v. 287, no. 9, pp. 1132-1141, 2002.
[29] U.S. Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Provisional Assessment of Recent Studies on Health Effects of Particulate Matter Exposure, EPA/600/R-06/063, July 2006; http://www.epa.gov/oar/particlepollution/pdfs/ord_report_20060720.pdf, accessed July 5, 2007.
2038-011a

Letter 4
Cont'd

response to this new information, the U.S. EPA recently tightened the federal 24-hour PM2.5 ambient air quality standard from 65 µg/m^3 to 35 µg/m^3, effective December 17, 2006.[30,31]

4-17 Cont'd

A recently published study of 12,865 patients evaluated the role of fine particulate matter exposure in triggering acute ischemic heart disease event. The study found a sharply elevated risk of heart attacks for people with clogged arteries after just a day or two of short-term exposure to fine particulate matter. This study was published in the American Heart Association's peer-reviewed journal *Circulation*.[32] One coauthor of the study stated that the results should prompt heart doctors to advise those with coronary heart disease to stay indoors as much as possible on particularly sooty days and that he was already changing his advice to patients based on the results – even advising in severe cases to move to a less polluted environment.[33]

Therefore, the DEIR must quantify PM2.5 emissions and determine the Project's potential impacts with respect to attainment of state and federal short-term and annual ambient air quality standards.

7. Emissions Associated with Gas Station Were Not Analyzed

4-18

As discussed above, the Project would include a gas station located in the southern portion of the proposed commercial site, adjacent to the proposed entrance off Cypress Road. The DEIR's air quality section makes no mention of the gas station and does not account for gasoline vapor emissions from the gas station or exhaust emissions from vehicle traffic accessing the gas station.

---

[30] U.S. Environmental Protection Agency, Office of Air Quality Standards and Planning, September 2006 Revisions to the National Ambient Air Quality Standards for Particle Pollution.
[31] U.S. Environmental Protection Agency, National Ambient Air Quality Standards for Particulate Matter, Final Rule, Federal Register, 40 CFR Part 50, Vol. 71, No. 200, pp. 61144-61233, October 17, 2006.
[32] Pope C.A. III, Muhlestein J.B., May H.T., Renlund D.G., Anderson J.L., Horne B.D., Ischemic Heart Disease Events Triggered by Short-Term Exposure to Fine Particulate Air Pollution, Circulation, No. 114, pp. 2443–2448; abstract available at http://circ.ahajournals.org/cgi/content/abstract/114/23/2443, accessed July 5, 2007.
[33] Los Angeles Times, Dire Health Effects of Pollution Reported, Diesel Soot from Construction Equipment Is Blamed for Illnesses and Premature Deaths, December 6, 2006.
2038-011a

**Letter 4
Cont'd**

Vehicular and Area Source Emissions

The DEIR's air quality analysis estimated regional emissions associated with Project vehicle use with URBEMIS 2007 for 578 residential units and for 278,000 square feet retail space in a strip mall.[34] The URBEMIS program estimates on-road vehicular emissions based on typical trip generation rates for a certain land use type and area source emissions associated with those land uses (natural gas combustion, landscape equipment, architectural coatings, etc.). The DEIR's air quality analysis did not include emissions associated with vehicles accessing the gas station or area emissions associated with the gas station.

Air quality expert Dr. Petra Pless estimated vehicular and area source emissions associated with a 16-pump gas station with URBEMIS 2007, as summarized in Table 1. Printouts of the URBEMIS model runs are attached to this letter.

4-19

Table 1: Gas station vehicular and area source emissions (lb/day)

	ROG	NOx	PM10	PM2.5
Summer				
Vehicular Emissions	18.18	24.12	33.14	6.36
Area Source	0.13	0.03	0.01	0.01
Total Summer	**18.31**	**24.15**	**33.15**	**6.37**
Winter				
Vehicular Emissions	23.29	35.96	33.14	6.36
Area Source	0.01	0.01	0.00	0.00
Total Winter	**23.30**	**35.97**	**33.14**	**6.36**
BAAQMD Significance Threshold	**80**	**80**	**80**	**-***
Percentage of Threshold	**29%**	**45%**	**41%**	**n/a**
DEIR Total Project Emissions, Table 4.4-5	**158.5**	**129.5**	**202.6**	

* The BAAQMD has not established a threshold of significance for PM2.5.

The DEIR's URBEMIS model run shows that the strip mall and residential units would generate a total of 17,470 vehicle trips per day.[35] The gas station

[34] Emerson DEIR, Appendix D, Air Quality Impact Analysis for the Proposed Emerson Ranch Project, City of Oakley, June 2008, Attachment 2: URBEMIS 2007 Program; *see* URBEMIS printout p. 3, *see* "Land Use Type."
[35] Emerson DEIR, Appendix D, Air Quality Impact Analysis for the Proposed Emerson Ranch
2038-011a

Letter 4 Cont'd

4-19 Cont'd

would add an additional 2,604 vehicle trips per day. Table 1 shows that emissions associated with these additional vehicle trips plus area source emissions associated with the gas station would substantially contribute to Project emissions and account for about 30 to 45 percent of the BAAQMD's significance thresholds for emissions of ROG, NOx, and particulate matter smaller than 10 micrometers ("PM10"). These emissions would substantially increase the Project's already significant emissions and contribute to existing regional air quality problems such as ozone formation and particulate matter concentrations in excess of ambient air quality standards.

Gasoline Vapor Emissions

4-20

In addition to the vehicular and area source emissions discussed in the Comment above, operation of the gas station would result in release of gasoline vapors from breathing, refueling and spillage while dispensing gasoline and during refilling of the gas station's underground storage tanks. Gasoline vapors include ROGs and a number of hazardous substances including TACs such as benzene, toluene, ethlybenzene, xylenes, methyl tertiary butyl ether ("MTBE"), and other trace toxics. These TACs are pollutants with localized effects that must be analyzed in a health risk assessment. ROG emissions contribute to regional ozone formation. The DEIR contains no discussion or analysis of ROG and TAC emissions associated with the proposed gas station.

The California Air Resources Board document *Air Quality and Land Use Handbook: A Community Health Perspective* recommends avoiding siting new sensitive land uses within 300 feet of facilities such as a dry cleaning operation or a large gas station.[36] The Project should therefore maintain a minimum buffer of 300 feet between the gas station and sensitive receptors including residences located south of East Cypress Road to the east of Machado Lane. In addition, the City should require that no dry cleaning facility may occupy any of the building pads within 300 feet of any residence. The City should undertake an analysis of localized impacts to ensure that all feasible measures are implemented to protect the health of nearby sensitive receptors.

4-21

Review of BAAQMD engineering evaluations and permits for similar size gas stations indicates that the proposed gas station would emit more than 10 lbs of

Project, City of Oakley, June 2008, Attachment 2: URBEMIS 2007 Program; *see* URBEMIS printout p. 3, *see* "Total Trips" under "Land Use Type."

[36] California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005; http://www.arb.ca.gov/ch/handbook.pdf, accessed February 9, 2009.

2038-011a

**Letter 4
Cont'd**

4-21 Cont'd

ROGs in a single day.[37] Thus, the best available control technology ("BACT") requirement of BAAQMD Rule 2-2-301 is triggered. As part of the BAAQMD's permit process for the gasoline station pursuant to Rule 2-2 "New Source Review," an HRA must be prepared for these facilities. The increased incremental carcinogenic health risk attributable to similar size gas stations typically exceeds one per million, triggering the use of best available control technology for toxics ("T-BACT") per BAAQMD Rule 2-5-301. T-BACT for gasoline dispensing facilities is considered the use of California Air Resources Board ("CARB")-certified Phase I and Phase II enhanced vapor recovery equipment. Rule 2-2 requires that the incremental cancer health risk attributable to the gas station not exceed 10 in one million if the gas station includes T-BACT. Under these circumstances, CEQA requires preparation of a health risk assessment in order to evaluate all public health impacts associated with the Project.

8. Mobile Source Diesel Particulate Matter Emissions Were Not Analyzed

4-22

The shopping center is expected to receive several large trucks and independent vendor-owned smaller parcel trucks daily (*e.g.*, soda, chips, etc.). Medium-duty and heavy-duty trucks would be circulating along the western and northern boundaries of the Project site. Trucks would access the site from the signalized intersection at Cypress Road, turn left and proceed along the western property boundary of the site and turn right to enter the loading dock area at Pad 1. Heavy-duty trucks would back up to rubberized gasket loading bays, with all unloading done directly into the building. Medium duty trucks would typically park near the loading dock area, and unloading activities would occur directly out of the truck, at approximately 60 to 80 feet from the residential property lines north of the market.[38] In addition, the Project site would be serviced by diesel-fueled waste management vehicles.

Depending on the truck routes and the distance to the nearest sensitive receptors, particulate emissions from diesel-fueled trucks could potentially create significant adverse air toxics impacts including increased cancer risk. Typically, these impacts are evaluated in a human health risk assessment. Here, the DEIR fails entirely to address or to even discuss diesel exhaust emissions from trucks.

---

[37] *See*, Bay Area Air Quality Management District, Public Notices – Permit Applications; http://www.baaqmd.gov/pmt/public_notices/.
[38] Emerson DEIR, pp. 4.5-16 – 4.5-17.
2038-011a

Letter 4 Cont'd

4-22 Cont'd

Thus, the DEIR should be revised to quantify diesel exhaust emissions and prepare a mobile source health risk assessment.

9. The DEIR Fails to Properly Mitigate Project Operational Emissions

4-23

The DEIR finds that operational emissions associated with the Project, emissions associated with vehicular traffic and area source emissions, would substantially exceed the BAAQMD's thresholds of significance for PM10 and the ozone precursors ROG and NOx. To address these significant emissions, the DEIR requires the Applicant to implement mitigation measures "submitted for the review and approval of the City Engineer" and provides a list of measures that "could" be included in this review. The DEIR concludes that the proposed mitigation measures have the potential to reduce Project-related regional emissions by 10 to 20 percent. The DEIR concludes that even with a reduction of this magnitude, Project emissions would remain well above the BAAQMD thresholds of significance and would therefore be significant and unavoidable.[39]

a. The DEIR's Proposed Mitigation Measures Are Not Enforceable

4-24

The DEIR's language renders the proposed mitigation measures unenforceable. Specifically, the Applicant is required to implement mitigation measures "submitted for the review and approval of the City Engineer." This future review improperly defers mitigation and fails to demonstrate that the City has required all feasible mitigation. Instead, the City should formulate specific and binding mitigation measures and include them in a revised DEIR.

4-25

The BAAQMD's CEQA Guidelines explicitly recommend that a lead agency be specific regarding implementation of mitigation measures:

> "The environmental document should describe each mitigation measure in detail, identify who is responsible for implementing the measure, and clearly explain how and when the measure will be implemented. Methods for assessing the measure's effectiveness once it is in place, and possible triggers for additional mitigation if necessary, are also desirable. This level of detail regarding mitigation measure implementation frequently is not addressed

[39] Emerson DEIR, pp. 4.4-16 – 4.4-17.
2038-011a

Letter 4
Cont'd

until the preparation of the mitigation monitoring and reporting program, which often takes place very late in the environmental review process. In order to reliably assess the effectiveness and feasibility of mitigation measures, however, the District believes it is necessary to consider the specifics of mitigation measure implementation as early in the environmental review process as possible."[40]

4-25 Cont'd

Deferral of the formulation of mitigation measures to post-approval studies is generally impermissible.[41] Environmental problems must be considered at a point in the planning process "where genuine flexibility remains."[42] An agency may only defer the formulation of mitigation measures when it "recognizes the significance of the potential environmental effect, commits itself to mitigating its impact, and articulates specific performance criteria for the future mitigation."[43]

"A study conducted after approval of a project will inevitably have a diminished influence on decision making. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA."[44]

Without specific and binding mitigation measures included in the analysis, the public is deprived of the opportunity to comment on the proposed mitigation and potential impacts that could result from mitigation. The DEIR must be revised to include a description of enforceable mitigation measures.

b. Additional Feasible Mitigation Measures Are Available to Reduce Project Operational Emissions

4-26

The DEIR failed to discuss additional mitigation measures that could be implemented to reduce the Project's significant emissions. There are numerous other measures available that are frequently required by other lead agencies as CEQA mitigation. Many of these measures are equally feasible for the Project and

[40] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, pp. 57 – 58.
[41] Sundstrom v. Cty. of Mendocino (1988) 202 Cal.App.3d 296, 308-309; CEQA Guidelines § 15126.4(a)(1)(B).
[42] Mount Sutro Defense Committee v. Regents of the University of Cal. (1978) 77 Cal.App.3d 20, 34.
[43] Sacramento Old City Assn. v. City Council (1991) 229 Cal.App.3d 1011, 1028-1029.
[44] Sundstrom, supra, 202 Cal.App.3d at 307.
2038-011a

Letter 4 Cont'd

should therefore be required. For example, SCAQMD recommends the following measures:

- Require the use or newer, lower-emitting trucks for the delivery of supplies to the facility.
- Require trucks to be offloaded promptly to prevent trucks idling for longer than five minutes in compliance with state law.
- Provide electrical hook-ups for trucks that need to cool their load.
- Electrify service equipment.
- Install solar panels on roofs to supply electricity for air conditioning.
- Install central water heating systems to reduce energy consumption.
- Install high energy-efficient appliances, such as water heaters, refrigerators, furnaces and boiler units.
- Use double-paned windows to reduce thermal heat.
- Install automatic lighting on/off controls and energy-efficient lighting.
- Require retail tenants to provide flyers and pamphlets for truck drivers educating them on the health effects of diesel particulate and the importance of being a good neighbor.

4-26 Cont'd

In addition, there are many mitigation measures available that would reduce the Project's impacts on local and regional air quality. Several of these measures would also address the Project's contribution to global climate change and are discussed below. Given the Project's significant long-term operational emissions and the Bay Area air basin's nonattainment status for ozone and PM10, the City should consider implementing all feasible mitigation measures.

For example, the City could require implementation of the following landscaping-related mitigation measures:

- Landscape with drought-resistant species, and use groundcovers rather than pavement to reduce heat reflection.
- Utilize CARB-certified or electric landscaping equipment in project and tenant operations.
- Introduce electric lawn and garden equipment exchange program.

2038-011a

Letter 4 Cont'd

4-26 Cont'd

— Plant shade trees with low ozone-forming potential, *e.g.*, in parking lots and along residential streets, as discussed below.

Plant Shade Trees with Low Ozone-Forming Potential

The Project would contribute to the urban heat island effect by converting open space to blacktop. Planting shade trees on parking lots and around buildings can mitigate this effect. By shading homes and offices, trees reduce power generation emissions. Fully grown, properly placed trees can cut home cooling costs by up to 40 percent. By cooling, trees also reduce evaporative emissions from vehicles and other fuel storage.[45] Additionally, general cooling reduces the speed of chemical reactions that lead to the formation of ozone and particulate matter, which are damaging to the human respiratory system. Trees also contribute to the removal of air pollutants. Furthermore, trees reduce overall greenhouse gas emissions through carbon sequestration and storage.[46,47] Many municipalities, including the nearby City of Concord, recognize these beneficial impacts of shade trees and require such plantings as mitigation.

4-27

However, trees and other plants can emit a substantial amount of hydrocarbons, so-called biogenic volatile organic compounds ("VOCs"). Many of these compounds are potent reactive organic gases that can react with nitrogen oxides emitted by cars and power plants to form ozone and therefore can adversely affect local and regional air quality. In Contra Costa County, about 15 percent of total VOC emissions come from biogenic sources. Emission rates for biogenic VOCs vary significantly from one tree species to the next. Some plant species can release as much as 10,000 times more biogenic VOCs than others. Low-emitters include the Chinese Hackberry, Avocado, Peach, Ashes, Sawleaf Zelkova and the Eastern Redbud. A few of the high emitters include eucalyptus, London Plane, California Sycamore, Liquidambar, Chinese Sweet Gum, Goldenrain Tree, and the Scarlet, Red and Willow Oaks.[48,49] Large-scale planting can therefore affect air quality through regional concentrations of ozone and fine particles. To reduce ozone concentrations in urban areas, it is therefore important to use low emitting species.

[45] Sacramento Municipal Utility District, Free Shade Trees; http://www.smud.org/residential/trees/.
[46] California Air Resources Board, Trees and Air Quality; http://www.arb.ca.gov/research/ecosys/tree-aq/tree-aq.htm.
[47] U.S. Environmental Protection Agency, Vegetation & Air Quality.
[48] California Air Resources Board, News Release 01-20, July 9, 2001; http://www.fraqmd.org/Tree%20Emissions.htm.
[49] Cal Poly State University, Urban Forest Ecosystems Institute, SelecTree, A Tree Selection Guide; http://selectree.calpoly.edu/.
2038-011a

Letter 4 Cont'd

4-27 Cont'd

When selected appropriately, trees and other plants can improve local cooling, reduce energy use, and slow the chemical reactions that lead to the formation of ozone or urban smog.[50,51]

The planting of low VOC-emitting shade tree species is a feasible mitigation measure that could substantially reduce ozone formation and greenhouse gas emissions. The EIR for the San Ramon City Center Project, also located in Contra Costa County, included such a mitigation measure requiring that at least 50 percent of the total project landscaping consist of drought-tolerant trees with low ozone-forming potential and identified climate-specific tree species with low ozone forming potential.[52] There are several resources available for the City of Oakley to identify climate-specific trees that are least likely to emit high levels of biogenic VOCs, including the tree species database maintained by the Urban Forest Ecosystems Institute at Cal Poly State University.[53] The East Bay Municipal Utility District's publication "Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region" provides information on drought-tolerance, exposure, and climate zones.[54] The U.S. Forest Service's Urban Forest Effects model ("UFORE") can be used to provide estimates of hourly amount of pollution removed by the urban forest, and associated percent air quality improvement throughout a year. Pollution removal is calculated for ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide and particulate matter (<10 microns). The model also provides estimates of hourly urban forest volatile organic compound emissions and the relative impact of tree species on net ozone and carbon monoxide formation throughout the year and total carbon stored and net carbon annually sequestered. In addition, the model provides information on effects of trees on building energy use and consequent effects on carbon dioxide emissions from power plants.[55]

---

[50] California Air Resources Board, Trees and Air Quality; http://www.arb.ca.gov/research/ecosys/tree-aq/tree-aq.htm.
[51] U.S. Environmental Protection Agency, Vegetation & Air Quality.
[52] City of San Ramon, San Ramon City Center, Final Subsequent Environmental Impact Report, San Ramon, Contra Costa County, California, SCH# 2007042022, October 26, 2007, Mitigation Monitoring and Reporting Program, MM-AIR-7, p. 4 and Appendix B "Low-OFP Trees Listed in EBMUD's "Plants and Landscapes for Summer-Dry Climates."
[53] Cal Poly State University, Urban Forest Ecosystems Institute, SelecTree, A Tree Selection Guide; http://selectree.calpoly.edu/.
[54] East Bay Municipal Utility District, Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region, 2004.
[55] U.S. Forest Service, Assessing Urban Ecosystems; http://itreetools.org/urban_ecosystem/introduction_step1.shtm.
2038-011a

Letter 4
Cont'd

C. THE DEIR FAILS TO ADEQUATELY STUDY EMISSIONS OF GREENHOUSE GASES

In 2006, Governor Schwarzenegger signed AB 32, a landmark law to control and reduce the emission of global warming gases in California. AB 32 requires both reporting of greenhouse gas emissions and their reduction on an ambitious time line, including a reduction of greenhouse gas emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050. Local governments, like all agencies, must comply with the legislation's provisions, and identify both CO2 and other greenhouse gas sources, and offer actions for mitigation of the increases in emissions in greenhouse gases that result from new development projects.

CEQA requires that "[e]ach public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so."[56] This requirement is the "core of an EIR."[57] Agencies must ensure that mitigation measures "are fully enforceable through permit conditions, agreements, and other measures."[58] Global warming is an "effect on the environment" under CEQA, and an individual project's incremental contribution to global warming can be cumulatively considerable.[59] In evaluating projects under CEQA, the City must also address the impact of the Project's greenhouse gas emissions on climate change and global warming and in relation to AB 32's greenhouse gas emission reduction requirements.

4-28

There is no question that any effort to reduce greenhouse gas emissions must address residential development. The California Air Resources Board's *Climate Change Scoping Plan* finds that:

> Collectively, energy use and related activities by buildings are the second largest contributor to California's greenhouse gas emissions. Almost one-quarter of California's greenhouse gas emissions can be attributed to buildings. As the Governor recognized in his Green Building Initiative (Executive Order S-20-04), significant reductions in greenhouse gas emissions can be achieved through the design and construction of new

[56] Pub. Resources Code § 21002.1, subd. (b).
[57] *Citizens of Goleta Valley v. Board of Supervisors of Santa Barbara County* (1990) 52 Cal.3d 553, 564-65.
[58] Pub. Resources Code § 21081.6, subd. (b).
[59] See Pub. Resources Code § 21083.05, subd. (a); see also Sen. Rules Comm., Off. of Sen. Floor Analyses, Analysis of Sen. Bill No. 97 (2007-2008 Reg. Sess.) Aug. 22, 2007.
2038-011a

Letter 4
Cont'd

green buildings as well as the sustainable operation, retrofitting, and renovation of existing buildings.[60]

4-28 Cont'd The DEIR determines that it is too speculative to determine the significance of the Project's impacts on greenhouse gas emission levels. The DEIR's superficial and conclusory analysis fails to meet CEQA's statutory requirements and is inconsistent with recent California caselaw.

On August 6, 2008, the Riverside County Superior Court invalidated an EIR for a proposal to construct approximately 2,700 homes, 1 million square feet of commercial space, a 400-unit hotel, a commercial amphitheater, and golf courses comprising 45 holes in the City of Desert Hot Springs. The Court cited the EIR's failure to analyze the project's greenhouse gas emissions and other climate change impacts.[61] The Court found the EIR inadequate because the City failed to make a meaningful attempt to determine the project's effect on global warming and determined that any such analysis would be speculative.

4-29 The Court noted that "[t]he Legislature and governor have recognized the importance of combating global warming." The Court cited AB 32, adopted in 2006, which limits greenhouse gas emissions, and SB 97, adopted in 2007, which directs the Office of Planning and Research ("OPR") to prepare guidelines for mitigating greenhouse gas emissions for use in CEQA analyses, as requiring the City to make a meaningful attempt to analyze the effect of the project on global warming. Since the City failed to make a meaningful attempt, the Court held that the City failed to proceed in the manner required by law. The Court also held that a cumulative impact analysis must consider the cumulative impact of global warming.

Similarly here, the DEIR did not adequately analyze the cumulative impacts from project-related greenhouse gas emissions and did not propose mitigation measures that would reduce the impacts to a level that is less than significant. The City of Oakley's failure to conduct the required analysis is even more egregious today since, in June 2008, OPR, in collaboration with the Resources Agency, California EPA and California Air Resources Board,

[60] CARB, *Climate Change Scoping Plan* (Oct. 2008) at p. 57.
[61] *Center for Biological Diversity, et al. v. City of Desert Hot Springs* (Riverside County Superior Court – Case No. RIC 464585 (August 6, 2008).)
2038-011a

Letter 4
Cont'd

4-29 Cont'd

developed and released the attached new technical advisory containing informal guidance for public agencies as they address the issue of climate change in their CEQA documents. Thus, the City must comply with pages 5 to 7, which outline OPR's recommended approach for performing a climate change analysis. These include methods for identifying and quantifying the GHG emissions, determining the significance of the impact on climate change, and if the impact is found to be significant, identifying alternatives and/or mitigation measures to reduce the impact below significance.

1. The DEIR Improperly Analyzed the GHG emissions Attributable to the Project

The DEIR identifies CO2 emissions from vehicles as one of the major sources of GHG emissions attributable to the Project. The DEIR fails to discuss any other major sources such as greenhouse gas emissions, however, including those emissions associated with the energy generation related to increases in electrical energy demand from the Project's components.

4-30

The DEIR argues that "given the overwhelming scope of global climate change, a single development project would be unlikely to have an individually discernable effect on global climate change." The DEIR also finds that it is too speculative to determine the significance of impacts that implementation of the Project may have on global climate change and, as a result, does not require any mitigation measures that specifically address greenhouse gas emissions. The DEIR notes that mitigation measures included in the air quality chapter would also reduce greenhouse gases.[62]

Here, the DEIR completely misses the point. A project's individual contribution to the worldwide greenhouse gas emissions inventory may indeed be negligible. However, it is the cumulative impact of all those individually negligible contributions that ultimately lead to global climate change. It is the City's responsibility under California's 2006 Global Climate Solutions Act to minimize its contribution to this global problem. The uncontrolled sprawl of thousands of residential developments across the United States contributes to ever-increasing commutes and thereby increases air pollutant and greenhouse gas emissions. CEQA requires the consideration of mitigation measures and alternatives to minimize and avoid these kinds of cumulative effects.

[62] Emerson DEIR, pp. 4.4-19 – 4.4-21.

Letter 4 Cont'd

4-30 Cont'd

If the City finds that the Project is the only viable and environmentally preferable alternative, it should require all feasible mitigation to minimize the Project's contribution to global climate change. In considering which mitigation measures to implement, the City has many resources available. It can consider, for example, the dozens of measures set out in the "CEQA and Climate Change" white paper issued by the California Air Pollution Control Officers Association ("CAPCOA"),[63,64] those developed by other municipalities, counties, and air districts and required in CEQA documents, and those set forth in the list of greenhouse gas mitigation measures published by the California Attorney General.[65] Comments below summarize additional feasible mitigation measures and discuss some measures in more detail. Many of these measures would also reduce the Project's impacts on local and regional air quality.

a. Building Design and Energy Efficiency

4-31

Buildings are responsible for about 37 percent of energy-related GHG emissions in North America and studies have found that implementation of current best practices can reduce carbon emissions for buildings by at least 60 percent for offices and up to 70 percent for homes.[66] In addition to the measures proposed by the DEIR, the following measures could reduce greenhouse gas emissions from the Project:

- Install double-paned windows.
- Shade HVAC equipment from direct sunlight.
- Use ozone-destruction catalyst on air condition systems.
- Install the most efficient commercially available heating and heating and cooling systems; use solar heating, automatic covers, and the most efficient pumps and motors for pools and spas.

[63] Emerson DEIR, p. 17-28.
[64] California Air Pollution Control Officers Association, CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008.
[65] Edmund G. Brown, Attorney General, State of California, The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level, updated May 21, 2008; http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, accessed August 20, 2008.
[66] U.S. Climate Change Science Program, First State of the Carbon Cycle Report: The North American Carbon Budget and Implications for the Global Carbon Cycle, May 2006, p. 96.
2038-011a

**Letter 4
Cont'd**

**4-31
Cont'd**

- Install centralized and/or on-demand water-heating systems.[67]
- Develop and follow a "green streets guide" that requires light emitting diodes ("LEDs") for traffic, street and other outdoor lighting, minimal amount of concrete and asphalt, permeable pavement, and incorporating shade trees where feasible.[68]
- Limit the hours of operation of outdoor lighting.
- Use energy-efficient low sodium parking lot and street lights.
- Provide education on energy efficiency.
- Reduce standard paving. (*See* Comment b.)

b. Reduce Standard Paving

Parking lots and roads are typically constructed by mixing asphalt with aggregate. The aggregate provides strength and the asphalt binds the aggregate together against the forces of traffic and weather. The resulting pavement is black and absorbs about 85 to 95 percent of sunlight that falls on it, becoming one of the hottest surfaces in urban areas. The hot surfaces of pavement (and similarly dark roofs) quickly warm the air over urban areas, leading to the creation of summer urban "heat islands."

4-32

This effect can be mitigated by reflecting the sunlight off the pavement before it heats up through use of lighter-colored, reflective pavement materials. These materials reduce the urban heat island effect, reducing the formation of ozone, and reducing evaporative emissions from vehicles that park on and use the pavement. This can be accomplished by using grass paving or reflective surfaces on unshaded parking lots, driveways, and fire lanes to reduce standard paving by 20 percent. Cooler temperatures also result in fewer evaporative emissions from parked vehicles and, thus, reduced ozone generation in the airshed. In addition, reflective surfaces, *e.g.*, concrete, require about 35 percent less lighting than asphalt, thereby reducing electricity demand and associated indirect emissions from electricity generation.[69] This measure is widely used, technically feasible, provides air quality

[67] Ventura County Air Pollution Control District, Ventura County Air Quality Management Plan, Appendix G-94, Guidelines for the Preparation of Air Quality Impact Analyses, October 1989.
[68] *See* Irvine Sustainable Travelways "Green Street" Guidelines; www.ci.irvine.ca.us/civica/filebank/blobdload.asp?BlobID=8934; and CoolHouston Plan; www.harc.edu/Projects/CoolHouston.
[69] Concrete in Focus, Ultra-Thin Whitetopping, The Industry Lines Up Behind an Innovative

2038-011a

Letter 4
Cont'd

benefits, and is economic. Thus, the Project should be required to reduce standard paving.

There are a large number of options that can be used to comply with this measure, ranging from porous block pavement systems to conventional asphalt pavements using light aggregate to conventional concrete pavements. Some are comparable in cost to conventional pavements and have added benefits such as decreased runoff besides reducing air quality impacts.

Porous Pavement Systems

Porous pavements are prefabricated lattice structures made of concrete or plastic. The lattice blocks are filled with aggregate or soil and grass or ground cover. Once grass has grown, or enough aggregate is placed, the underlying lattice is invisible. These systems typically cost $1.50 to $3.00 per sq. ft. installed, excluding excavation, and thus are competitive with conventional asphalt pavements. The lattice provides support, preventing compaction.

4-32 Cont'd

A number of companies market the product, including Invisible Structures, Inc., Aurora, CO; Preston Products, Appleton, WI; Bartron Corp., Tempe, AZ; Landscape Products Co., Union City, CA; Bomanite Corp, Palo Alto, CA; and Hastings Pavement Co. Inc., Freeport, NY.[70] Another product, EcoCreto, an additive-enhanced pervious concrete, provides both reflectivity and allows infiltration of water, thereby reducing stormwater runoff.[71] These systems are useful for pedestrian walkways, driveways, parking lots, overflow parking, fire lanes, or any other less frequently traveled surface, depending on traffic density. They are also used to control stormwater runoff and hillside soil erosion.

Conventional Paving Systems

The most economical way to lighten pavement is to place the aggregate, which is typically lighter in color, near the surface. This measure is widely recommended in the literature.[72] This paving system is known as "chip seal." An

---

Technology; http://www.somero.com/pdf/NRCQ_whitetopping.pdf.
[70] *See* websites as follows: www.invisiblestructures.com, www.grassroad.com, and www.arcat.com.
[71] EcoCreto, Enhanced Pervious Concrete, http://www.ecocreto.com/home.html#.
[72] M. Pomerantz, H. Akbari, P. Berdahl, S.J. Konopacki, and H. Taha, Reflective Surfaces for Cooler Buildings and Cities, Philosophical Magazine B, v. 79, no. 9, 1999, pp. 1457-1476; A.H. Rosenfeld, H. Akbari, J.J. Romm, and M. Pomerantz, Cool Communities: Strategies for Heat Island Mitigation
2038-011a

Letter 4 Cont'd

4-32 Cont'd

asphalt emulsion binder is first sprayed onto the pavement, followed by a layer of aggregate. The aggregate is pressed into the binder, yielding a surface whose reflectivity is dominated by the aggregate. Lighter-colored aggregate can be used to achieve high reflectivity, depending on local availability. This typically costs $0.09 to $0.14 per sq. ft. installed, applied over a standard asphalt pavement base which typically costs $1.00 to $1.50 per sq. ft.

There are a number of other standard paving techniques that can be modified to lighten the pavement by using lighter aggregates or adding light pigments or coatings to the top inch or two of the pavement mixture, but most are more costly. These include asphalt emulsion seal coats ($0.06-$0.10/sq. ft.), asphalt pavement ($1.00-$1.50/sq. ft.), asphalt slurry seals ($0.12-$0.14/sq. ft.), and asphalt surface coatings ($0.25-$0.75/sq. ft.).[73] Alternatively, some paving systems are naturally light, including Portland cement concrete paving ($2.00-$6.00/sq. ft.), resin modified emulsion pavement (which is clear and thus retains the color of the aggregate) and white-topping ($1.50-$2.50/sq. ft.), a technique of covering asphalt pavement with a layer of concrete. All costs are installed, excluding surface preparation.[74]

c. Renewable Energy

4-33

The use of renewable energy could substantially contribute to reducing the Project's emissions of greenhouse gas emissions as well as criteria pollutant emissions. The following mitigation measures are feasible for the Project to address the use of renewable energy:

- Participate in the California Energy Commission New Solar Homes Partnership and include onsite solar photovoltaic systems in at least 50 percent of the residential units.
- Include onsite solar generation of electricity on retail/commercial building roofs and in parking lots (solar carports).
- For residences, use solar hot water systems with booster heating that is either full-condensing natural gas (or propane) or tankless electric (or electric heat pump) water heating technology; locate water heater and all hot water fixtures in close proximity; follow structured

and Smog Reduction, Energy and Buildings, v. 28, 1998, pp. 51-62.
[73] Some vendors include AsphaColor, Sparks, NV (800-258-7679); StreetPrint, Fair Oaks, CA (916-966-7875; and CPM Inc, Sacramento, CA (916-381-8033).
[74] See more detailed discussion at www.energy.ca.gov/coolcommunity/strategy/coolpave.html.
2038-011a

Letter 4
Cont'd

4-33 Cont'd

plumbing guidelines to lay out hot water distribution piping.[75] Educate consumers about existing incentives.

— Use energy-efficient and automated controls for air conditioning.

d. Roof Photovoltaic Energy Systems

Photovoltaic energy systems generate electricity using solar panels and are becoming increasingly popular and cost-effective for both residential and commercial applications. These systems reduce air pollution by reducing the demand for electricity from the grid, which is produced largely from fossil fuels.

4-34

A wide variety of photovoltaic systems are available in today's markets. Most of them can be grouped into two main categories — facade systems and roofing systems. Facade systems include curtain wall products, spandrel panels, and glazings. Roofing systems include tiles, shingles, standing seam products, and skylights. However, for a new project that has not been designed, building-integrated photovoltaic ("BIPV") electric power systems, which are incorporated directly into the building shell design, are more cost effective and efficient because they can be designed to replace other standard building elements, such as spandrel panels. This technology has been demonstrated to be technically feasible for many years and has been used extensively in Europe.

Photovoltaic systems require negligible maintenance. In commercial applications, they are commonly designed to provide 25 to 35 percent of the peak power demand. In residential applications, they can be designed to provide 100 percent of the electricity demand year-round, and can be tied into the utility grid to turn the residence into a net exporter in times of lower demand. For example, a 5-kW solar photovoltaic system reliably powers a 2,000-sq. ft. home generating 740 kWh per month.[76]

On smaller buildings, where photovoltaic panels are not feasible, photovoltaic shingles or cells and photovoltaic glazing can be incorporated into the building envelope. Examples include the Thoreau Center for Sustainability in the Presidio National Park, San Francisco; the Capitol Mall Centennial Plan in Phoenix, AZ,

[75] Got Hot Water? Guidelines for Specifying Structured Plumbing Systems, January 2007; http://www.gothotwater.com/D%27MAND/Guidelines%20for%20Structured%20Plumbing%20Systems%202007-01-05.pdf.
[76] MC Solar Engineering, Residential, http://www.mcsolar.com/residential/residential_pv.htm.
2038-011a

Letter 4 Cont'd

4-34 Cont'd

which features parking structures with photovoltaic canopies; the California State University parking lot in Sacramento; the Sacramento Dan McAuliffe Memorial Ballpark; and the Cal Expo Solarport in Sacramento, CA, the world's largest parking lot solar electric shade structure.

e. Building Design Certification

Several building design certification programs are available as standards for environmentally sustainable building design and construction. These include, for example, the Leadership in Energy and Environmental Design ("LEED") Green Building Rating System, developed by the U.S. Green Building Council ("USBGC"), and the "Build It Green" system.[77]

Since its inception in 1998, LEED has grown to encompass projects in all 50 U.S. states and in 41 countries.[78] LEED standards include the above discussed mitigation measures in addition to a variety of other measures that improve the sustainability of a project. The USGBC provides assistance in incorporating LEED principles and guidance for certification to developers through its Core and Shell pilot program, which would also be available to the developer of the Project.

4-35

Many commercial projects have incorporated some or all recommended LEED measures. Recently, Archon Group L.P.'s 405,000-sq. ft. Fairlane Green Phase I project in Allen Park, MI, became the first multi-tenant retail project in the United States to receive Gold Level LEED certification. Some of the sustainable and environmental features of Fairlane Green include:

- A 43-acre park and 3.5 miles of trails around the site.
- Site irrigation from storm water retention ponds rather than municipal water supplies.
- Bio-swales and wetland-type detention ponds to manage storm water runoff and create natural habitat for birds and other wildlife.
- Green screens, hedgerows and prairie-style landscaping to green the site and provide wildlife habitat.

[77] *See* Build it Green, www.builditgreen.org/greenpointrated.
[78] Green Building Council, Green Building Facts, October 2007; https://www.usgbc.org/ShowFile.aspx?DocumentID=2349.
2038-011a

**Letter 4
Cont'd**

— Reduced energy consumption through white reflective roofing and high-efficiency heating and cooling equipment.

Overall, approximately two-thirds of the 243-acre site will be green – not covered by parking, roads or rooftops. This is 60% less dense than average retail developments based on sq. ft. per acre. The International Council of Shopping Centers estimates typical retail yields at 10,000 sq. ft. per acre, while Fairlane Green is approximately 4,000 sq. ft. per acre. The Project is typical with about 10,000 sq. ft. per acre.

Beyond the core and shell development, tenants of Fairlane Green are encouraged to pursue sustainability within their buildings. Target, for example, has partnered with Ford to contribute to this environmentally sound development. In addition to sustainable elements found at all Target stores, such as white roof membranes and high-efficiency heating and cooling systems, this store will include several innovative sustainable features. More than 250 skylights will save energy by allowing light fixtures to be turned off when conditions allow natural daylight to illuminate the sales floor, and a cistern on the roof will recycle rainwater. [79] All of these features could also be incorporated into the Project, especially given the fact that Target will be a major tenant.

4-35 Cont'd

In 2005, the Abercorn Common became the first all-retail LEED-certified shopping center in Savannah, GA. The sustainable features incorporated into the 16,620-sq. ft. center included:

— Numerous transportation alternatives including preferred parking for hybrid vehicles and bike racks and showers for employee use;

— 100 percent of irrigation provided by rainwater harvested at Abercorn Common, saving 5.5 million gallons of water annually;

— A vegetated "green" roof covering 9,000 square feet of roof space, providing insulation and storm water management;

— The green roof, tight building envelope, solar hot water heating and high efficiency HVAC reduce energy consumption over 25 percent;

— Shops core energy use operating on 100 percent green power;

[79] Ford Motor Land Development, Ford Announces New Green Retail Development in Allen Park; http://www.fordlanddevelopment.com/fairlane/assets/news/release_07_29_fairlane_green.pdf.

2038-011a

Letter 4
Cont'd

4-35 Cont'd

- A solar panel on the roof provides free hot water heating to tenants;
- Use of low-ROG paints, sealants and adhesives throughout;
- A 100 percent white concrete parking lot, which reflects heat and reduces the heat island effect;
- The green roof and an infiltration ditch provide an opportunity for 100 percent of the stormwater to infiltrate on-site;
- Selection of materials that have high recycled material content and are manufactured within a 500 mile radius of the project site;
- Use of 100 percent sustainably harvested wood as certified by the Forest Stewardship Council;
- Recycling of over 80 percent of the construction and demolition waste, preventing over 1,300 tons of waste from reaching the landfill;
- Installation of 1-gallon per flush toilets and waterless urinals, reducing water use by over 40 percent;
- Installation of a high-albedo white thermoplastic polyolefin roof membrane;
- Installation of high-efficiency HVAC with hot-gas reheat;
- Installation of formaldehyde-free insulation; and
- Use of recycled-content gypsum board.[80]

Another project planning to obtain LEED certification is the Destiny USA regional mall in Syracuse, NY, which will include a mix of shopping, entertainment, dining and hospitality choices.[81] On September 25, 2006, the U.S. EPA and Destiny USA signed a Memorandum of Understanding ("MoU"), committing the developer to use environmentally sound practices in constructing and running its proposed project. The agreement touches on design, construction and operational principles ensuring the planned complex meets the highest environmental standards. In the MoU, Destiny USA commits to:

---

[80] Shops Six Hundred at Abercorn Common: http://www.abercorncommon.com/images/stories/AbercornCommonShops600CaseStudy.pdf; and eco-structure, By Following Core Values, a Developer Makes the Impossible Possible, The Magic of Abercorn Common, May/June 2006: http://www.abercorncommon.com/images/stories/EcoStructureTheMagicOfAbercornCommon.pdf.

[81] http://www.destinyusa.com/.

2038-011a

Letter 4
Cont'd

4-35
Cont'd

- Using green building design, construction, and operation principles to obtain the highest levels of certification from the USGBC's LEED program;
- Retrofitting more than 100 construction vehicles with diesel particulate filters and using clean fuel, which will reduce emissions by nearly 85 percent;
- Implementing techniques to reduce idling of vehicles during construction;
- Becoming partners in the U.S. EPA's EnergyStar and WaterSense programs, which require the use of energy- and water-efficient appliances;
- Using over 3,000 tons of coal ash in place of using newly-manufactured Portland Cement, which will reduce greenhouse gas emissions by over 3,000 tons;
- Developing a comprehensive set of tools to manage environmental, health and safety matters, also known as an environmental management system ("EMS);
- Taking part in the U.S. EPA's Resource Conservation Challenge, a voluntary program that promotes the reduction, reuse and recycling of solid waste, including electronics;
- Increasing the number of hybrid and biodiesel vehicles in its fleet;
- Implementing a commuter benefits program that qualifies for the U.S. EPA's National Standard of Excellence; and
- Promoting the U.S. EPA's SmartWay Transport Partnership to its carriers, shippers and tenants to reduce diesel emissions and conserve energy.[82]

All of these requirements could also be incorporated into the Project's commercial component to reduce its significant impacts on air quality and contribution to global climate change.

[82] U.S. Environmental Protection Agency, Region 2: Newsroom, EPA and Destiny USA Announce "Memorandum of Understanding," September 25, 2006; http://yosemite.epa.gov/opa/admpress.nsf/4d84d5d9a719de8c8525701800546 7c2/51dbfdcc14dce9db852571f40059eb9a!OpenDocument.
2038-011a

Letter 4 Cont'd

D. THE DEIR FAILS TO DISCLOSE, ANALYZE OR ADEQUATELY MITIGATE TRAFFIC IMPACTS

This Project will increase traffic in the Oakley area due to the development of up to 578 residential units in five neighborhoods and 278,046 square feet of commercial uses including pads for four major retail tenants, a garden center, two retail pads for smaller shops, and four smaller pads for restaurants, banks, or similar uses.

4-36

The congestion generated by the construction traffic, residential traffic and other Project-related trips will be added to the already heavily impacted Oakley surface roads and nearby State Route 4, the main highway servicing the Project. Some of the roads in proximity to the Project are already operating below acceptable levels of service. State Route 4 is one of the most impacted highways in the entire Bay Area. According to the DEIR, State Route 4 is the only major north-south transportation corridor in the vicinity of the Project that provides direct access from Oakley to the greater Bay Area.[83] Upgrades to Highway 4 have been stalled for years with angry residents suffering through excessive commutes, and the addition of Project-related trips will further degrade traffic conditions.

The DEIR improperly calculated traffic volumes, significantly underestimating traffic impacts from the residential and commercial traffic. Numerous transportation and circulation impacts associated with the Project have not been properly or adequately analyzed or mitigated. Comments submitted by Caltrans and the Public Utility Commission have also not been adequately addressed in the DEIR. In sum, the City has not conducted an appropriate traffic and circulation analysis of the Emerson Property Project.

1. The Traffic Study, Traffic Counts and Traffic Signal Analyses Were Omitted from the DEIR

4-37

The DEIR failed to include a Traffic Impact Analysis as referenced numerous times in Chapter 4.3 (Traffic Study) prepared by Abrams Associates. The DEIR indicates that the Traffic Study is incorporated into the EIR as Appendix D. Instead of a traffic study, Appendix D consists of Chapter 3.7, Transportation and Circulation, from the June 2008 DEIR for the Emerson Ranch Project as well as the

[83] Emerson DEIR, November 2008, p. 4.3-3.

Letter 4 Cont'd

4-37 Cont'd

Appendix to the Traffic Study. The DEIR also failed to include critical information such as traffic counts of existing conditions and traffic signal warrant analyses. This documentation should be included in a revised DEIR.

2. The DEIR Is Based Upon an Incorrect and Outdated CEQA Baseline

4-38

The analysis of existing traffic conditions at the Project site is inadequate because it relies upon outdated traffic studies performed in 2004 or earlier. This analysis was used as the baseline for analyzing all traffic impacts in the DEIR. New studies must be done to reflect current levels of service for the baseline in a new or revised DEIR.

The "CEQA baseline" refers to the existing environmental setting used as a starting point to measure whether a proposed project may cause a significant environmental impact.[84] CEQA defines baseline as the physical environment as it actually exists at the time a CEQA review commenced, not as it theoretically could have existed. Specifically, the baseline is the "physical environmental conditions in the vicinity of the project as they exist at the time environmental analysis is commenced."[85]

4-39

Traffic count information for the project study intersections was obtained from the River Oaks Crossing Specific Plan FEIR and calibrated with data from the East Cypress Road Specific Plan Traffic Study. In addition, new traffic counts were conducted at three key intersections in May 2008 to verify that the traffic volumes are accurately portrayed.

4-40

The September 2007 River Oaks Crossing Specific Plan Project DEIR was itself flawed because it included outdated traffic counts. In fact, only 2 of 23 traffic counts were conducted within the last three years and 21 of 23 traffic counts date from 2004 or earlier, with some of the traffic counts made during different seasons. No adjustments were made to bring the counts to a common year or season. Further, no adjustments were made to reflect growth in background traffic even though the DEIR stated population in the subregion grew by 4.6 percent annually and the City of Oakley grew at 3.1 percent annually between 2000 and 2005.

[84] *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1278.
[85] CEQA Guidelines §15125(a); *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1453.
2038-011a

Letter 4 Cont'd

4-41 The East Cypress Road Specific Plan Draft Traffic Study referenced in Section 8 of the Emerson Property Project DEIR was dated March 2005. The traffic counts for the East Cypress Road Specific Plan Draft Traffic Study were conducted in 2004. These studies were outdated at the time this CEQA review was commenced.

4-42 The Notice of Preparation ("NOP") for the Emerson Property Project was issued on May 23, 2007. Using traffic counts from 2004 from either the River Oaks Crossing Specific Plan DEIR or the East Cypress Road Specific Plan Draft Traffic Study does not reflect traffic volumes at the time of the NOP. While the Emerson Property DEIR indicates new traffic counts were made at three key intersections in May 2008, no evidence is presented that the existing traffic volumes in the DEIR are "accurately portrayed." Further, because copies of the AM and PM peak hour counts are not included in Appendix D, it is impossible to verify whether the traffic counts were properly entered into the computer programs that were then used to calculate capacity and Level of Service ("LOS") for the different scenarios.

CEQA requires analysis of existing conditions at the time of the NOP. Using outdated traffic volumes from 2004 to analyze existing conditions in May 2007 in the rapidly developing Oakley area does not comply with this CEQA provision. This is a fatal flaw in the DEIR that must be rectified by conducting a new traffic study that builds upon existing traffic volumes.

3. Traffic Impacts of the Phased Project Have Not Been Analyzed

4-43 The DEIR fails to analyze traffic conditions at completion of each major Project phase. The Project Description does not include any information regarding Project phasing. With the size of the proposed Project which includes five separate neighborhoods of residential development and the commercial site, the Emerson Property Project will likely be constructed in phases over a number of years. The DEIR only analyzes completion of the entire Project in a single phase against background conditions that assume no more than 50 percent of the East Cypress Specific Plan has been constructed and occupied at that time. Without the Project phasing, there is no assurance that implementation of mitigation measures will be linked to significant traffic impacts resulting from the Project's phased development.

2038-011a

Letter 4
Cont'd

4-43 Cont'd

Without evaluating traffic impacts at the conclusion of each Project phase, it is impossible to determine the point in time at which the Emerson Property Project will cause the LOS at impacted intersections to deteriorate to an unacceptable level. Realistic Project phasing assumptions must be documented in the traffic analysis and in the DEIR. The traffic study must build upon and analyze volumes representing conditions at the time of the CEQA analysis. The traffic analysis must disclose significant traffic impacts to enable the Emerson Property Project to construct associated mitigation measures at the completion of each major Project phase. This is required to implement mitigation measures in a timely manner and maintain the City's LOS D standard as defined on Page 4.3-4 of the DEIR. This significant omission from the DEIR causes the traffic analysis to be inaccurate and incomplete.

4. The Analysis of Baseline Intersection Operations Is Flawed

4-44

The DEIR provides LOS for baseline operations at the Project study intersections. The reported LOS is incorrect at the locations listed below. In turn, this leads to flawed analysis of baseline plus Project traffic conditions.

East Cypress Road/Knightsen Avenue – PM – LOS "C", not LOS "B"
East Cypress Road/Jersey Island Road – AM – LOS "A", not LOS "B"
East Cypress Road/Jersey Island Road – PM – LOS "B", not LOS "A"
East Cypress Road/Bethel Island Road – PM – LOS "A", not LOS "B"
Sellers Avenue at Laurel Road – AM – LOS "A", not "N/A"
Sellers Avenue at Laurel Road – PM – LOS "A", not "N/A"
Main Street (SR4) at Rose Avenue – AM – LOS "E", not LOS "D"
Main Street (SR4) at Rose Avenue – PM – LOS "F", not LOS "E"
Main Street (SR4) at O'Hara Avenue – PM – LOS "E", not LOS "B"
Main Street (SR4) at Laurel Avenue – PM – LOS "D", not LOS "A"
Main Street (SR4) at Brownstone Road – AM – LOS "F", not LOS "E"
Laurel Road at Rose Avenue – AM – LOS "E", not LOS "B"
Laurel Road at Rose Avenue – PM – LOS "F", not LOS "B"

These significant errors must be corrected in a revised traffic analysis.

2038-011a

Letter 4 Cont'd

5. Commercial Traffic Has Been Underestimated by More Than 50%

The DEIR's trip-generation rates used to forecast daily and peak hour trips significantly underestimate the traffic that will be generated by the Project. The rates contain numerous methodology errors that undermine the entire analysis.

4-45 For the commercial development, average rates for shopping centers have been used. These rates were then multiplied by the square footage to forecast trips for the commercial portion of the development. Shopping center trips were then reduced by 34 percent to account for pass-by trips. The net new trips for the commercial development plus the trips to and from the residential portion of the Project were then distributed to the roadways and analyzed to identify traffic impacts and mitigation.

4-46 The traffic analysis improperly used generalized rates rather than specific rates. When specific land uses are identified, as in the DEIR, trip generation forecasts must be developed using the trip rates associated with the specific land uses. Many of the proposed uses within the retail portion of the Project generate trips at significantly higher rates during the critical PM peak hour than the average shopping center rate used in the DEIR.

Supermarket

4-47 The DEIR provides a description of a shopping center/supermarket: "The project would also include a shopping center with approximately 280,000 square feet of commercial space anchored by a supermarket." According to Trip Generation, 7th Edition published by ITE, the average PM peak hour trip rate for a supermarket is 10.45 trips per thousand square feet. The average shopping center PM peak hour trip rate used in the DEIR is only 3.75 trips per thousand square feet. Assuming the supermarket would have 65,000 square feet, the supermarket would generate *436 more* PM peak hour trips than forecast in the DEIR before adjusting for pass-by trips.

Bank or Fast Food Restaurant With Drive Thru

4-48 The Project Description indicates there are four smaller pads for restaurants, banks, or similar uses. Pad 3 contains a 4,587 square foot building with drive thru lane, potentially a bank or a fast food restaurant. According to Trip Generation, 7th Edition published by ITE, the average PM peak hour trip rate for a bank with drive

**Letter 4
Cont'd**

4-48 Cont'd

thru lane is 45.74 trips per thousand square feet and the average PM peak hour trip rate for a fast food restaurant with drive thru lane is 34.64 trips per thousand square feet. The average shopping center PM peak hour trip rate used in the DEIR is only 3.75 trips per thousand square feet. A 4,587 square foot bank with drive thru lane would generate *193 more* PM peak hour trips than forecast in the DEIR before adjusting for pass-by trips. A 4,587 square foot fast food restaurant with drive thru lane would generate *142 more* PM peak hour trips than forecast in the DEIR before adjusting for pass-by trips.

4-49

Gas Station

Figure 3-4 illustrates a gas station with at least 16 fueling positions just east of the proposed signalized access serving the commercial site. The summary of square footage does not include the gas station, and the associated trips for this land use were not included in the trip generation forecast for the 278,000 square foot shopping center. According to Trip Generation, 7th Edition published by ITE, the average PM peak hour trip rate for a gas station is 13.86 trips per fueling position. Assuming the gas station would have 16 fueling positions as shown on Figure 3-4, the gas station would generate *222 more* PM peak hour trips than forecast in the DEIR before adjusting for pass-by trips for this land use.

4-50

Pass By Trips for Shopping Centers

Trip Generation Handbook, Second Edition published by ITE provides data on the percentage of pass-by trips in the PM peak hour for various land uses. The percentage of pass-by trips in the weekday PM peak hour decreases as the size of the shopping center increases. For a 278,000 square foot shopping center, ITE data indicates the percentage of pass-by trips in the PM peak hour is only 29 percent, not 34 percent as used in the DEIR. With 29 percent for pass-by trips, the proper reduction for PM peak hour trips is 302 rather than 355 as calculated in the DEIR. Correcting the pass-by adjustment indicates the 278,000 square foot shopping center would generate *53 more* PM peak hour trips than forecast in the DEIR.

4-51

The traffic analysis in the DEIR also used average trip rates, rather than trip rate equations. The Trip Generation Handbook, Second Edition published by ITE provides direction regarding the proper use of the different forecast methods. For PM peak hour trips for shopping centers, the ITE formula must be used as it provides the proper relation between the size of the shopping center and the trips generated (i.e., smaller shopping centers generate trips at higher rates per

2038-011a

Letter 4 Cont'd

4-51 Cont'd

thousand square feet than larger shopping centers). The DEIR incorrectly applied the average PM peak hour trip rate for all shopping centers. The proper PM peak hour trip rate for the proposed shopping center is 4.42 trips per thousand square feet, not the average rate of 3.75 used in the DEIR. Correcting the trip rate indicates this shopping center would generate *186 more* PM peak hour trips than forecast in the DEIR.

4-52

The resulting increase in the PM peak hour trips is significant. The DEIR calculated 688 net new shopping center trips would be generated in the PM peak hour. Using the specific land uses identified in the Project Description and on Figure 3-4 together with the corresponding pass-by trip reductions for each land use, and treating the balance of the commercial development as a shopping center with higher trip rates and higher pass-by percentages, *at least 1,623 net new* shopping center trips will be generated in the PM peak hour (1,623 net new trips assumes a fast food restaurant with drive thru rather than a bank with drive thru).

4-53

The trip generation forecast in the DEIR for the shopping center portion of the proposed Project has been *underestimated by at least 935 trips* in the critical PM peak hour. The DEIR must distribute these additional trips associated with the commercial development to the roadways and reanalyze the study intersections. With at least 935 more PM peak hour trips generated by the Project than were analyzed in the DEIR, other intersections will be significantly impacted by the Project. Additional mitigation measures must be developed to address the significant Project impacts that are now unmitigated.

6. Mitigation Measures are Incomplete and Inadequate

4-54

The DEIR requires "fair share" mitigation of significant traffic impacts. "[T]he proposed Project would contribute to the mitigation of the above-identified impacts by paying the proposed Project's fair share of the cost to implement the improvements through the payment of regional traffic fees to the East Contra Costa Regional Fee and Finance Authority and the City's Transportation Impact Fee. The amount of the Project's fair-share fee shall be determined by the City prior to the final map approval."

The DEIR provides no evidence that payment of impact fees will actually result in timely construction of the necessary improvements. In addition, the DEIR does not identify the agency responsible for implementing the various projects, or demonstrate that these projects are scheduled to provide timely mitigation of traffic

Letter 4 Cont'd

4-54 Cont'd impacts to each of the roadway segments and intersections significantly impacted by the Project.

4-55 The DEIR identified eight major improvements that were assumed to be in place in the Baseline conditions. While these improvements may have been previously planned, shrinking revenues (particularly those projects funded by impact fees paid by developers) may not be sufficient to complete them, and the improvements cannot be "assumed" in the Baseline analysis. The DEIR does not provide any evidence that the regional impact fee will provide sufficient funding to complete the necessary mitigation.

7. The Mitigation for the Railroad Crossing Analysis are Flawed

4-56 The DEIR fails to adequately analyze and include sufficient mitigation measures with respect to the "At-Grade Railroad Crossings." The Public Utilities Commission expressed concerns regarding traffic safety and Project impacts to the existing at-grade railroad crossings on Cypress Road and on Sellers Avenue. Both comments suggested planning for grade separations and consideration of other improvements to these two railroad crossings.

The DEIR acknowledges that eastbound traffic on Cypress Road backs up to Main Street when trains cross, and this interferes with the regular operations at the Cypress Road/Main Street intersection during the PM peak hour. The DEIR indicates the Project "...would result in an increase in traffic flows that would create congestion at the current railroad crossing, even with the widening of Cypress Road to four lanes." The DEIR correctly acknowledges a "...potentially significant impact would result from the proposed project."

However, the DEIR acknowledges that "grade-separating at the railroad crossing is not planned." The DEIR requires the Project to pay regional and city traffic impact fees as mitigation at the railroad crossing. However, payment of fees will not mitigate Project traffic impacts at the railroad crossing.

4-57 The DEIR must properly analyze traffic safety and evaluate impacts associated with the additional Project traffic at the Cypress Road railroad crossing. Measures must be developed and incorporated into the DEIR to address the significant unmitigated impacts at the railroad crossing and the queuing back from

Letter 4 Cont'd

4-57 Cont'd the railroad crossing which causes congestion in the PM peak hour at Cypress Road and Main Street.

8. Impacts to State Route 4 are not Analyzed or Mitigated

4-58 Caltrans expressed concerns in their May 17, 2007 letter regarding Project impacts to the State Highway System. The DEIR states, "During the AM peak hour, the primary direction of traffic in the vicinity of the project is westbound as area residents use SR4 and other roadways to travel to employment in the Bay Area. During the PM peak hour, the primary direction of traffic is eastbound as residents return home." While the trip distribution for the Project assigns significant Project traffic to SR4, the DEIR fails to adequately evaluate Project traffic impacts on SR4. The Traffic Study must follow Caltrans Guide for the Preparation of Traffic Impact Studies and evaluate Project traffic impacts on the SR4 Freeway.

9. The DEIR Omitted Significant Impacts Identified in the Appendix

4-59 Appendix D indicates "The proposed project would contribute to the deterioration of the all-way stop-controlled West Cypress Road/O'Hara intersection to LOS F during the PM peak hour. The degradation of the intersection from LOS D to LOS F during a peak hour is considered a significant impact." Mitigation Measure 3.7-7(a) states, "Applicant shall be responsible for the project's fair share of a traffic signal or additional turn lanes and the project's fair share funding shall be submitted as determined by the City Engineer prior to recording of final maps."

While identified as a significant impact in Appendix D, the DEIR does not identify the Project as having a significant impact at the West Cypress Road/O'Hara intersection. It appears that the Project does have a significant impact at this location and mitigation is required. The conflicting conclusions between the DEIR and Appendix D (the June 2008 version of the Traffic and Circulation Chapter) must be resolved.

10. The DEIR Fails to Meaningfully Analyze Transit Impacts

4-60 The DEIR identifies an increased demand for public transit service. "The lack of bus service to the project area would be a potentially significant impact." As

2038-011a

Letter 4
Cont'd

mitigation, the DEIR requires the Project include bus stops on the north side of Cypress Road near Sellers Avenue.

4-60 Cont'd The DEIR provides no evidence that Project impacts on future transit service have been evaluated. Installing bus stops will not provide the funding needed to establish and maintain transit service to the area and to the proposed Project. The DEIR must be revised to forecast the transit needs that will be generated by the Project and develop a realistic transit plan and funding mechanism for it.

11. Additional Omissions from the DEIR

The DEIR does not analyze impacts or develop mitigation measures associated with the following topics:

4-61 The DEIR fails to properly analyze the site plan impacts on Cypress Road, specifically impacts caused by three traffic signals within 2,000 feet on this roadway. The three signals include one planned for the main residential entrance, another at the shopping center entrance and an existing traffic signal. With three traffic signals so closely spaced together and the posted 50 MPH speed limit, eastbound and westbound traffic will not be able to travel through these signals without stopping at least once. Stopping high speed traffic at red lights in such a short distance will compromise traffic flow and traffic safety. These impacts must be evaluated and mitigation such as elimination of the traffic signal for the commercial development with restriction of access at the shopping center to only right turns must be considered.

4-62 Other important site plan traffic considerations that must be addressed in the DEIR include the necessary width and number of lanes on the internal collector streets, length of driveway throats to adequately accommodate vehicle queuing and stacking, sight distance at external and internal intersections, on-site vehicle circulation, and pedestrian and bicycle crossings of internal streets.

4-63 The DEIR must also analyze and evaluate impacts associated with construction including dirt and building material hauling, worker traffic, and worker parking for each of the Project phases. Measures must be developed and incorporated into the DEIR to mitigate construction traffic impacts. These measures must maintain the City's LOS D standard in order to prevent construction traffic from degrading the LOS below the significance threshold used

2088-011a

Letter 4 Cont'd

4-63 Cont'd in the DEIR. Without these additional analyses, the DEIR fails to address all reasonably foreseeable adverse traffic and construction impacts.

4-64 In sum, the traffic analysis utterly fails to adequately analyze and mitigate the traffic impacts from the Project. There are numerous transportation and circulation issues, omissions, and inadequacies. The significant unmitigated impacts that were not addressed in the DEIR must be properly analyzed in a new EIR that is circulated for public review and comment.

E. THE DEIR FAILS TO ADEQUATELY STUDY AND MITIGATE IMPACTS TO BIOLOGICAL RESOURCES

4-65 The Project site, *i.e.* the Emerson property, is an approximately 140-acre farmed and grazed field bordered by the Contra Costa Canal to the north, East Cypress Road to the South, and the proposed Gilbert Property subdivision to the East. The DEIR's project description in the biological resources section erroneously states that "the Dutch Slough marks the site's western boundary..."[86] This statement is incorrect. The Dutch Slough does not border the Project site. To the west, the Project site is bounded by the Cypress Grove subdivision, as shown in Figure 2 below.[87]

[86] Emerson DEIR, p. 4.7-1.
[87] Emerson DEIR, p. 2-1 and Figure 3-2, p. 3-8.
2038-011a

Letter 4
Cont'd

4-65
Cont'd

Figure 2: Project location map

From: DEIR, Figure 3-2

The Project site is located south of the Dutch Slough Tidal Marsh Restoration Project. The Dutch Slough Tidal Marsh Restoration Project is located in the historic delta of Marsh Creek, which drains approximately 100 acres on the east side of Mt. Diablo and enters the Sacramento-San Joaquin Delta on the northwest corner of the Dutch Slough site.[88] As shown in Figure 3, the Dutch Slough Tidal Marsh Restoration Project consists of the 438-acre Emerson Parcel, the 292-acre Gilbert Parcel, and the 436-acre Burroughs Parcel. The Project site, aka the Emerson Property, is located south of the Dutch Slough Tidal Marsh Restoration Project, bordered by the Contra Costa Canal.

[88] Natural Heritage Institute, Dutch Slough Tidal Marsh Restoration Project, Preliminary Opportunities and Constraints Report, February 20, 2004.

2038-011a

Letter 4
Cont'd

Figure 3: Dutch Slough Tidal Marsh Restoration Project site map

Figure 2. Annotated aerial of the Dutch Slough restoration site.

Adapted from: Natural Heritage Institute, Dutch Slough Tidal Marsh Restoration Project, Preliminary Opportunities and Constraints Report, February 20, 2004

4-66

In addition to Marsh Creek, the Dutch Slough Tidal Marsh Restoration Project site is dissected by two dead end sloughs, Emerson Slough and Little Dutch Slough. The Dutch Slough Tidal Marsh provides habitat for numerous endangered species. Valley freshwater marsh vegetation is also found in the northeastern corner of the Project site in the portion of Emerson Slough where the single stormwater outfall is located.[89] The Project site also features sand dunes that provide habitat for special status sand mound species.

Development in Oakley has occurred at a startling rate. The Project site is especially sensitive due to its location vis-à-vis California's delta. According to a blue ribbon panel commissioned by Governor Schwarzenegger, the Delta is in an

[89] Emerson DEIR, p. 4.7-5.

2088-011a

Letter 4 Cont'd

ecological tailspin.[90] Invasive species, water pumping facilities, urban growth, and urban and agricultural pollution are degrading water quality and threatening multiple fish species with extinction. Urban development is reducing wildlife habitat today and foreclosing future opportunities to improve the ecosystem—and Delta water conveyance. The threat of catastrophic failure from earthquake, flood, sea level rise, and land subsidence is painfully real and growing. The DEIR failed to adequately study the impacts from urban runoff and development on this impaired delta ecosystem. The DEIR largely relies on the East Contra Costa County Habitat Conservation Plan ("HCP") as its only method of ensuring that Project impacts to special status species and ecosystems are mitigated.

4-66 Cont'd

The City of Oakley approved the HCP and authorized execution of the Implementation Agreement on January 22, 2007.[91] The DEIR acknowledges that the Project site is within the HCP inventory area and will pay development fees pursuant to the HCP and a separate East Cypress Habitat Conservation Plan Memorandum of Agreement. Pursuant to the HCP, the City of Oakley holds incidental take permits for 28 species, including a number of species on the Project site. However, the HCP does not cover special status aquatic species such as the endangered Delta smelt, nor does it cover special-status sand mound species. Thus, the DEIR failed to adequately study or mitigate the potentially significant impacts to special status aquatic species and sand mound species.

4-67

Stormwater releases from the Project activities could result in a potentially significant impact to aquatic species in the slough environment. The DEIR states that stormwater will be pretreated in a basin before entering Emerson Slough.[92] However, the DEIR's biological assessment provides no discussion of the constituents in the stormwater outfall and how those constituents may impair the habitat quality or imperil the lives of sensitive aquatic species in the slough. The DEIR notes that, "Valley freshwater marsh and aquatic habitats are some of the most productive habitats for wildlife because they offer water, food, and cover for a variety of species."[93]

4-68

The DEIR states that the U.S. Fish and Wildlife Service ("USFWS") was contacted concerning the potential for special-status species in Emerson Slough,

[90] Final Delta Vision Strategic Plan, Blue Ribbon Task Force, October, 2008.
[91] Emerson DEIR, p. 4.7-57.
[92] Emerson DEIR, p. 4.7-5.
[93] Emerson DEIR, p. 4.7-5.
2038-011a

Letter 4
Cont'd

including the Delta smelt. The DEIR concludes, without any evidence or analysis, that the Delta smelt would not be impacted by this project.[94] The DEIR improperly relies upon an environmental impact report for the Cypress Grove project that is now outdated (the study was finalized six years ago) and was not specific to the Emerson Property project:

4-68 Cont'd

> "An Essential Fish Habitat Assessment for the adjacent Cypress Grove development, which evaluated the effects of four outfalls into Emerson Slough, concluded that adverse effects to protected fish species and their habitats would not occur because of design features for water quality treatment and flood attenuation (NOAA Fisheries 2003, Sycamore et al. 2003)."

This study does not provide a current analysis of the conditions of the Emerson Property Project site and cannot be relied upon as evidence that there will be no Project-specific significant biological impacts. The DEIR must survey and properly analyze the impacts posed by this project on the Delta smelt and other special status aquatic species in the Emerson Slough.

4-69

The DEIR also fails to adequately survey, analyze or mitigate for impacts to special-status dune and sand mound insects. Sand dunes can support a distinct vegetative community characterized by plant species that favor growth in sandy soils. The DEIR provides no current or Project-specific analysis of the potential impacts to these dune species. The DEIR again improperly relies on outdated studies that were done for a wholly different project, the Cypress Grove development, rather than surveying and mitigating the impacts specific to the Emerson Project. The DEIR then concludes that no mitigation is required to lessen impacts to dune and sand mound species. The DEIR must be revised and recirculated to analyze and mitigate significant impacts to special status dune and sand mound species.

4-70

Further, the proximity of the Project to regionally significant wetlands raises the issue of adverse impacts of off-leash dogs or outdoor cats on local wildlife, particularly birds and small mammals. To address this issue, many projects located in similar locations therefore incorporate mitigation measures geared to prevent or reduce these impacts. Frequently, the Covenants, Conditions, and Restrictions ("CCRs") of residential developments stipulate that outdoor cats are prohibited and

[94] Emerson DEIR, p. 4.7-37.

Letter 4 Cont'd

4-70 Cont'd

that tenants are required to keep their dogs on a leash at all times unless kept in an enclosed area.[95] Thus, the DEIR should be revised to require that the developer of the residential portion of the Project stipulate similar prohibitions in its CCRs to minimize the Project's potential impacts on local wildlife.

F. THE POTENTIAL FOR THE PRESENCE OF PESTICIDES IN THE DRAINAGE AREA HAS NOT BEEN EVALUATED

The pond to be constructed on the Project is to receive drainage from a 184-acre parcel to the south of the site and from an area to the southeast of the site known as the Baldocchi property. The DEIR states:

4-71

> The project area is part of a larger drainage area that is part of the City of Oakley's master drainage planning efforts. The drainage area includes the approximately 31-acre area that includes Cypress Road, and areas to the southeast of the Emerson property on what is referred to as the Baldocchi property.[96]

Only the 184-acre area directly to the south of the Project site will be within the drainage area, in contrast to the DEIR's statement which considers the Baldocchi property to the southeast to be within the drainage area. Following a review of a California Department of Toxic Substances Control ("DTSC") website, we found the Baldocchi property to be under an agreement for cleanup of pesticide contaminated soil that resulted from agricultural operations that involved walnut orchards and row crops.[97] An investigation showed that organochlorine pesticides such as DDT and chlordane, were present in the soil at levels above the California Human Health Screening Levels (CHHSLs) for residential use. The Baldocchi property was evaluated by DTSC for cleanup and the chosen alternative, which has yet to be implemented, involves the bioremediation of the contaminated soil. The contaminated soil would be excavated and transported to a location on the Baldocchi property for mixing and for the addition of nutrients to stimulate bioremediation.

---

[95] *See*, for example, Lone Star Ranch, Master Declaration of Covenants, Conditions, Restrictions and Easements, Article X, Restrictions on Subdivision Lots, Section 8(a), August 9, 2005; http://lonestarhoa.com/Documents/Recorded%20CCRs.pdf, accessed February 1, 2009.
[96] Emerson DEIR, Figure 4.10-3, p. 4.10-25.
[97] Department of Toxic Substances Control, EnviroStor Database. http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60000650
2088-011a

Letter 4
Cont'd

4-71 Cont'd

The DEIR does not mention the presence of the contamination at the Baldocchi property and does not evaluate the potential for the contaminants to be transported in stormwater within the drainage area as described in the DEIR.[98] We have also noted, in the review of historic aerial photographs, that the area directly to the south of the Emerson property, and within the area that is identified to drain to the onsite detention pond in the DEIR, [99] was historically used for orchards from 1939 to 1982.

The potential for pesticide-contaminated stormwater to drain to the detention pond was not evaluated in the DEIR. The DEIR should be rewritten to include an evaluation of the potential for pesticides to be transported from the Baldocchi property and other properties identified within the drainage area, and the potential impacts on sediment that would accumulate in the pond and any transport of sediment that may contain pesticides or other contaminants on the sensitive species identified in Emerson and Dutch Sloughs.

G. THE DEIR SHOULD BE REVISED TO EVALUATE 200-YEAR FLOOD PROTECTION

4-72

The DEIR is deficient because it seeks only to achieve a level of 100-year flood protection, not the 200-year protection that has been mandated by the State of California under SB 5 which was passed in 2007 for an area which includes the proposed Project. All national floodplain management agencies along with the U.S. Army Corps of Engineers (USACOE) and FEMA now consider the National Flood Insurance Program (NFIP) 100-year level of protection to be inadequate in reducing the risk of flooding in urban areas to a level of insignificance.[100]

The recent report ReEnvisioning the Delta: Alternative Futures for the Heart of California concludes that the 100-year flood level is also inadequate to protect urban development in the Delta.[101]

There are several serious problems with the 100-year standard. First, the 100-year flood is a statistical construct, and it usually becomes

[98] Emerson DEIR p. 4.10-25.
[99] Emerson DEIR Figure 4.10-3.
[100] Personal communication with Dr. Jeffery Mount, UC Davis
[101] *ReEnvisioning the Delta: Alternative Futures for the Heart of California.* Department of Landscape Architecture and Environmental Planning, University of California, Berkeley. http://landscape.ced.berkeley.edu/~delta/symp%20report/ReEnvisioning%2CFINAL.pdf
2038-011a

**Letter 4
Cont'd**

larger as our historical flood data set expands. Second, as areas urbanize, less rain infiltrates, so the flood runoff increases for the same rainfall, meaning the 100-year flood is actually greater than before. Third, the mapping of the 100-year flood assumes a static channel, but in fact river channels are subject to change, especially during big floods. Fourth, many people misunderstand the probability concept and think that the "100-year flood" won't happen for a hundred years. Even more importantly, the 100-year flood is by no means the largest flood we can expect. There is the 200-year flood, with a one-half percent probability of occurring each year, and the 400-year flood, with a 0.25-percent annual probability, and so on. The residual risk of flooding from these larger, less frequent floods is significant. Over the life of a 30-year mortgage, the residual risk of flooding to a house protected by a 100-year levee is about 25 percent – strikingly poor odds.

**4-72
Cont'd**

There is no better illustration of the flaws in this system than the Delta. Developers and local authorities are constructing levees to meet the standards of 100-year protection, thereby officially removing the "protected" area from the 100-year floodplain and releasing the below-sea-level land from restrictions on development. This is done in full knowledge that even if the levee performs as designed, they will not protect against any larger-than-100- year flood, which are about 25 percent likely over a 30-year period. And when the houses are below sea level, the floodwaters will rush in quickly, leaving little time for evacuation. This will inevitably result in loss of human life and massive property damage, for which California taxpayers likely will be held liable.[102]

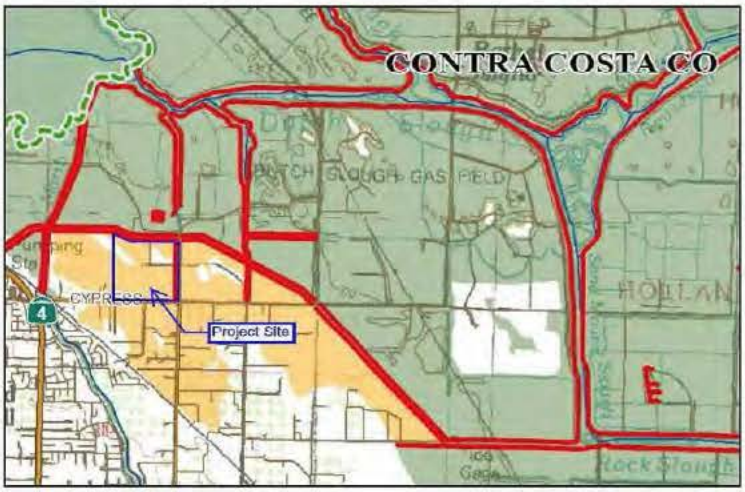
As a result of this general consensus that 100-year flood protection is insufficient, Senate Bill 5 was passed in 2007 which required 200-year flood protection for all new urban developments within the Sacramento-San Joaquin Valley watershed and which required the Department of Water Resources to develop preliminary maps of the 100- and 200-year floodplains within the watershed.[103] The map prepared by DWR for the area of the proposed project[104] is shown below.

---

[102] Emerson DEIR p. 15.
[103] http://www.leginfo.ca.gov/pub/07-08/bill/sen/sb_0001-0050/sb_5_bill_20071010_chaptered.pdf
2038-011a

**Letter 4
Cont'd**

**4-72
Cont'd**



The area of the Project is shaded yellow which is identified by DWR to be within a "100-year composite floodplain."[105] The DWR states: "In every case, the 200-year composite floodplains incorporate the areas of the 100-year composite floodplains."[106]

Timelines associated with SB 5 are tied to the Central Valley Floodplain Protection Plan which is to be adopted by July 1, 2012. Within two years of the adoption date, each affected city and county must incorporate provisions of the plan into its general plans. Within three years of the adoption date, each city and county must amend its zoning ordinance to be consistent with its amended general plans. Once the amendments are effective, cities within the Sacramento-San Joaquin Valley watershed cannot enter into development agreements for areas within a flood hazard zone unless:

---

[104] California Department of Water Resources, Preliminary 100- and 200-Year Floodplains Based Upon Best Available Data. August 20, 2008. http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/contra_costa/cca_b2.pdf
[105] Ibid.
[106] Ibid.
2038-011a

**Letter 4
Cont'd**

**4-72
Cont'd**

- existing facilities are protected by a 200-year flood, or
- local flood management agencies make adequate progress on the construction of the flood protection system to provide the required level of protection; or
- conditions are imposed on the development that will provide the required level of protection.[107]

SB 5 determined that 200-year protection is required to reduce flood impacts to a level of insignificance and sets forth strict timelines for implementation that are tied to the Central Valley Floodplain Protection Plan starting in 2012.

The DEIR should be revised to include a discussion of how 200-year flood protection to protect project inhabitants and visitors would be met by the levee system that bounds the Project area.

H. POTENTIAL LEVEE FAILURE FROM LIQUEFACTION IS NOT DISCUSSED

Soils prone to liquefaction underlie the majority of the Project site.[108] The DEIR predicts:

4-73

> Up to four inches of settlement could occur due to liquefaction [...] Structural support related to the proposed project could be adversely affected by potential liquefaction within the project site. (p. 4.8-9)

Despite the acknowledgement that liquefaction is likely in the event of a major earthquake, no specific consideration is given in the DEIR to the potential for levees which bound the Project site to fail from liquefaction. The DEIR should be revised to include an evaluation of the potential for a major earthquake to cause collapse of the levees from shaking or from liquefaction.

[107] California Department of Water Resources, Urban Floodplain Evaluation, http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/urban_floodplain.cfm
[108] Emerson DEIR, p. 4.8-4.
2038-011a

Letter 4
Cont'd

I. THE DEIR FAILS TO ANALYZE OR MITIGATE POTENTIALLY SIGNIFICANT IMPACTS FROM FLOODING DUE TO CLIMATE CHANGE

The DEIR states that the site is not in a flood zone but that levees would have to be built and maintained to prevent flooding at the Project site. The DEIR completely omits any discussion or analysis of the predicted increased water levels in the delta due to the effects of global climate change. This issue was not addressed in the DEIR chapters on climate change or on hydrology. The State Department of Water Resources ("DWR") has long ago alerted delta communities to anticipate this problem and it should have been analyzed in the DEIR.[109]

According to DWR, scientists project a loss of at least 25 percent of the Sierra snowpack by 2050. Weather patterns are becoming more variable, causing more severe winter and spring flooding and longer, drier droughts. Since the 1950's, flood flows on many California rivers have been the largest on record. Levees, dams, and flood bypasses are forced to manage flows for which they weren't designed. In the past century, sea level has risen over one-half foot at the Golden Gate. Projected, continued sea level rise will threaten the sustainability of the Sacramento-San Joaquin Delta.

4-74

DWR is calling for improved flood forecasting models to assess future flood protection needs and analysis of the effects of sea level rise on delta levees. DWR cautions that "climate change calls into question assumptions of 'stationarity' that are used in flood-related statistical analyses like the 100-year flood. Planners will need to factor a new level of safety into the design, operation, and regulation of flood protection facilities such as dams, floodways, bypasses and levees, as well as the design of local sewers and storm drains."[110] DWR foresees levee failures in the delta. "[S]ea level rise can contribute to catastrophic levee failures in the Delta, which have great potential to inundate communities, damage infrastructure, and interrupt water supplies throughout the state."[111] DWR recommends that local governments site new development outside of undeveloped floodplains unless the floodplain has at least a sustainable, 200-year level of flood protection.

[109] Climate Change in California, DWR, June 2007.
[110] Managing an Uncertain Future, Climate Change Adaptation Strategies, DWR, October 2008.
[111] Id. p. 7.
2038-011a

Letter 4 Cont'd

4-74 Cont'd

The DEIR makes no mention of this potentially significant impact that would arise during the life of the Project. Instead the DEIR only states that "[t]he proposed project area is not within a designated floodplain as mapped by FEMA... the site is subject to inundation risk from the Sacramento/San Joaquin Delta, which has a 100-year flood elevation of seven feet above mean sea level."[112] The DEIR must be revised to update its analysis of flood risk and provide mitigation for this potentially significant impact.

J. THE DEIR FAILS TO ANALYZE AND MITIGATE THE IMPACT OF ONSITE HAZARDS TO THE WORKERS AND THE PUBLIC

4-75

The Project site has undisclosed or mitigated hazards such as at least one undisclosed gas well that would be located under a planned home, potential residual pesticide and nitrate contamination, and hazards associated with a natural gas pipeline that could affect the health of workers on the Project site and future residents. The DEIR wholly omits analysis of many of these contaminants and inadequately analyzes and mitigates others.

1. Potential Presence of Pesticides has not been Adequately Addressed

The DEIR documents the presence of a pesticide shed on the project property as follows:

4-76

> The Emerson property includes an existing pesticide shed. Though the site does not contain any indications of past substance release, and soil impacts were not noted within the area of the pesticide shed, the possibility exists that soils may have been impacted as a result of past product spillage.[113]

In May 2007, DTSC voiced concerns for the potential presence of pesticides at the site, including the area of the pesticide shed, as follows:

> In a September 14, 2006 letter containing comments on the DEIR for the now withdrawn Dutch Slough Properties project, DTSC noted that several locations on the Emerson Property, including the area in the vicinity of the pesticide shed, were identified as having the potential for soil and/or

[112] Emerson DEIR, p. 4.10-23.
[113] Emerson DEIR p. 4.6-2.
2038-011a

Letter 4
Cont'd

groundwater contamination. DTSC recommended that soil in the area of the pesticide shed on the Emerson property be sampled to verify that no release of pesticides had occurred in the area and that there are currently no pesticides present at concentrations that pose a significant risk to human health. DTSC advised that the sampling should not be contingent on the observation of stained or odoriferous soil. DTSC reiterates this recommendation.[114]

4-76 Cont'd

The DEIR makes the following statement about sampling the property for the presence of pesticides:

> The site visit of the property performed by ENGEO Inc. indicated that a shed used for pesticide storage is located on the Emerson property. Further study by ENGEO Inc. found that substance release or soil impacts near or around the shed do not exist. Additional site reconnaissance was performed on the proposed project site, and the Phase I concludes that, although pesticide and herbicide residues are present on-site, the contaminants are below Environmental Screening Level (ESL) standards for residential uses.[115]

The DEIR provides conflicting information about the presence of pesticides at the Project site. On the one hand, the DEIR states that no pesticides were released and that soil impacts were not noted, while at the same time stating that pesticides are present in on-site soils below ESLs.

4-77

The DEIR and supporting documents do not include analytical data for soil sampling that would necessarily have been conducted to make the above conclusion that pesticides are present in on-site soils at concentrations below ESLs. The DEIR should be revised to include all sampling data, the methodology of the soil sampling and substantiation of the conclusion that a release at the storage shed did not occur and the pesticide concentrations are below ESLs.

4-78

Additionally, the Project proponent should respond to the two requests made by DTSC to conduct sampling at the pesticide shed and at other locations at the Project site. This would be followed by submission of any available pesticide data to DTSC for their review of the adequacy of the sampling that was conducted and the

[114] Department of Toxic Substances Control Letter to the City of Oakley Senior Planner. May 30, 2007.
[115] Emerson DEIR p. 4.6-8.
2038-011a

Letter 4
Cont'd

4-78 Cont'd

determination that soil impacts do not exist. The Project proponent should also enter into a voluntary cleanup agreement with DTSC whereby soil sampling is conducted under DTSC review to determine if potential health or environmental risks would result from any residual pesticides in the soil. Sampling for pesticides at the Project site would be consistent with an informal agreement between the City of Brentwood and Contra Costa County whereby sampling for pesticides at residential projects is routinely conducted and reviewed by the County Hazardous Materials Program.[116] Although a school has not been proposed for the Project, the DEIR should incorporate DTSC guidance that has been prepared for sampling agricultural lands to be developed for schools.[117] Under this guidance, we note that sampling of the 140-acre Project area would require the analysis of more than 25 samples site-wide in addition to the targeted sampling at the pesticide shed as recommended by DTSC in their comments on the NOP.

4-79

Finally, although the DEIR and the supporting documents state that the Project site has only been used for the cultivation of dry land crops such as wheat, our review of historic aerial photography showed that in 1939 the site was used for orchards (Attached). The use of agricultural lands for orchards adjacent to the project site has resulted in residual contamination of soils with organochlorine pesticides which are known to be persistent in soils. For example, at the Baldocchi property, located just adjacent to the Project site (see black hatch in the figure below), DTSC determined that concentrations of DDT and chlordane were above concentrations that are considered to be protective of human health and ordered a removal action to protect future residents of a proposed housing development.[118]

---

[116] Personal communication, Dena Hutchin, Hazardous Materials Specialist, Contra Costa County, January 30, 2007.
[117] Interim Guidance for Sampling Agricultural Fields for School Sites (Second Revision). DTSC, August 26, 2002. http://www.dtsc.ca.gov/Schools/upload/interim-ag-soils-guidance.pdf
[118] Fact Sheet: Cleanup Plan for Baldocchi Property in Oakley is Available for Review. DTSC. September 2007.
http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/9940601944/Final%20Fact%20Sheet%20091807.pdf
2038-011a

Letter 4
Cont'd

4-79 Cont'd

A revised DEIR must consider the potential presence of pesticides related to use of the site as an orchard, including any areas where the pesticides would have been mixed and stored, including the pesticide storage shed. A revised DEIR must also analyze whether pesticide drifted to the Project site from the adjacent Baldocchi property and the property directly to the south of the Project site where orchards are visible in historical aerial photographs dating from 1939 to 1982. Pesticide drift from the application of pesticides on the adjacent properties may have resulted in soil contamination at the Project site. Consideration should also be given to the potential that stormwater runoff, which flows toward the Project site could have contained pesticide contaminated sediment that may have been deposited at the project site.

2. An Abandoned Natural Gas Well is Not Identified in the DEIR

4-80

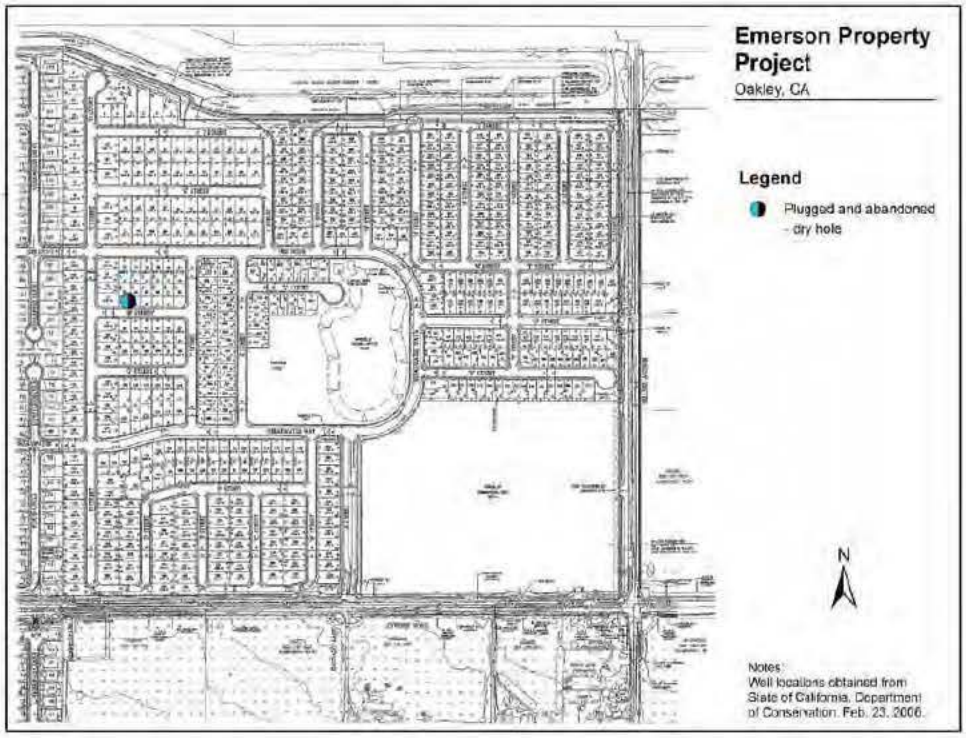
The DEIR identifies active and abandoned natural gas wells located on adjacent properties, including the Gilbert and the Burroughs properties,[119] but fails to identify an abandoned natural gas well located on the Project property. Based on information readily available at the California Department of Oil, Gas, and

[119] Emerson DEIR, pp. 4.6-3 – 4.6-4.

Letter 4
Cont'd

Geothermal Resources (DOGGR) website,[120] we identified an abandoned dry hole natural gas well located on the Project property beneath an area slated for construction of houses. The figure below shows the location of the well, based on the mapped location at the DOGGR website.

4-80
Cont'd



The DOGGR website includes the following information about the well:

Operator:	Occidental Petroleum Corp.
Lease and Well:	Oakley Unit One, Well No. 2
Spud Date:	8/18/1964
Abandon Date:	8/30/1964

[120] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. http://www.conservation.ca.gov/dog/Pages/Index.aspx
2088-011a

Letter 4
Cont'd

Total Well Depth:	8,434 ft.
Plug Depth:	844-667 ft.
Latitude:	37° 59' 40.85" North
Longitude:	121° 41' 3.80" West

The location of the abandoned well is within the Project area as below, based on the latitude/longitude information provided at the DOGGR website.

4-80
Cont'd

Current DOGGR well abandonment requirements (Title 14, CCR) specify the entire well to be plugged with cement or the placement of a plug 100 feet below each gas

2088-011a

Letter 4 Cont'd

4-80 Cont'd

zone to 100 feet above each gas zone.[121] A DEIR should be prepared to document if the well abandonment techniques used for the well at the project site meet current DOGGR standards, especially given that the location of the well is in an area proposed for housing. In other municipalities, construction is to be avoided in areas where oil or gas wells are located; for example, in Huntington Beach, California, "new construction shall not to be located within ten feet of, or over, any abandoned well."[122] The DEIR should describe if the location of the well is consistent with any Oakley municipal codes or ordinances that would concern abandoned natural gas well in areas of residential development.

4-81

Recommendations were made in the 1999 Phase I and the 2004 Phase I update for the investigation of natural gas wells that were identified at a nearby parcel. The 1999 Phase I stated that areas of former natural gas wells beneath the Burroughs parcel should be investigated for potential environmental impacts, which were identified to include:

- Hydrocarbon impacts to soil/groundwater as a result of spillage from condensate storage tanks.
- Spillage from above-ground diesel and motor oil storage tanks.
- Hydrocarbon impacts within the area of compressor units.
- Mercury impacts adjacent/beneath meter sheds.
- Hydrocarbon/barium impacts associated with former drill sumps.
- Hydrocarbon impacts around wellheads.[123]

The Phase I went on to conclude that for the wells on the Burroughs property, an additional Phase II investigation should be conducted as follows:

> A Phase II assessment of the existing/former gas well sites should be undertaken. The assessment should include recovery of soil and groundwater samples with laboratory analysis for petroleum hydrocarbons and metals.

A revised DEIR should include a Phase II investigation of the abandoned well at the Project property consistent with the investigation as described above.

---

[121] California Code of Regulations, Title 14 Natural Resources, Division 2 Department of Conservation. March 2007. ftp://ftp.consrv.ca.gov/pub/oil/regulations/PRC04.PDF
[122] City of Huntington Beach Municipal Code, Chapter 15.32: Nonproducing and Idle Wells. http://www.surfcity-hb.org/files/users/city_clerk/MC1532.pdf
[123] Phase I ESA, p. 29.
2038-011a

**Letter 4
Cont'd**

4-82 Additionally, the investigation results should be submitted to DOGGR and/or DTSC for their review to ensure that future residents are not at risk from any residual soil contamination or any gasses that may migrate up the well bore due to inadequate abandonment.

3. Potential Contaminants Related to use of the Site as a Dairy Have not Been Addressed

The 1999 Phase I discusses the potential nitrate impacts to the proposed Project site ("the Emerson Property") as follows:

> Given the current and historical dairy activities, it is possible that site soils and ground water may exhibit elevated nitrate levels.

4-83

The conclusions of the 2004 Phase I update do not reference the historical dairy operations or potential dairy-related impacts. The DEIR repeats the 1999 statement referring to elevated soil and groundwater nitrate levels as a potential hazard, but does not offer any mitigation measures.

The DEIR should be revised to include the results of an investigation to include soil and groundwater sampling results to determine nitrate concentrations. The DEIR should also include any mitigation measures that may be necessary to protect groundwater quality or water quality in the lake that will be located on the site for the purpose of stormwater retention.

4. The Significance of the Presence of a Natural Gas Pipeline has Not been Adequately Evaluated

The DEIR identifies a high pressure natural gas pipeline to run adjacent to the project site as follows:

4-84

> A natural gas pipeline is located south of the site along East Cypress Road. The pipeline operates as a gathering line and serves natural gas production wells in the area. Although pipelines do not exist on the project site, construction-related activities such as heavy equipment operation adjacent to the project site could damage the pipelines and result in the release of natural gas, exposing workers or nearby existing residents to the dangers associated with such a release. Exposure to this hazardous material, although unlikely, would result in a potentially significant impact.

2088-011a

Letter 4
Cont'd

4-84 Cont'd

The pipeline is located in an area within 200 feet of the proposed homes at the Project site. The DEIR fails to identify that the pipeline is considered to be an environmentally sensitive pipeline under DOGGR regulations as follow:

> (d) "Environmentally sensitive pipeline" means any of the following: (1) A pipeline located within 300 feet of any public recreational area, or a building intended for human occupancy that is not necessary to the operation of the production operation, such as residences, schools, hospitals, and businesses.[124]

Operators of environmentally sensitive pipelines are required by DOGGR to prepare a pipeline management plan for review and approval every five years.[125] The plans are to be updated whenever pipelines are installed, altered, the plan becomes obsolete, or at the request of the supervisor.

The DEIR should be revised to identify the presence of the environmentally sensitive pipeline adjacent to the southern boundary of the proposed Project. The DEIR should also be revised to include the pipeline management plan as prepared by the operator of the pipeline to ensure that the pipeline is in a condition that will ensure protection of the construction workers and the residents who would live in the houses within approximately 200 feet of the pipeline. Finally, we recommend consideration of the need to update the pipeline management plan to incorporate the proposal for the construction of the residences and to identify any necessary safeguards to ensure public safety during construction and operation of the Project.

K. THE DEIR FAILS TO ADEQUATELY ANALYZE AND MITIGATE IMPACTS OF STORMWATER DISCHARGE

4-85

Extensive grading activities will be conducted over the entire 140 acre Project site, potentially mobilizing soil with concentrations of residual pesticides and other contaminants. The potential for mobilization of residual pesticides and other potential contaminants during site excavation is not described in the DEIR, and no provisions are made to mitigate impacts to receiving waters.

---

[124] California Code of Regulations, Title 14 Natural Resources, Division 2 Department of Conservation. March 2007. ftp://ftp.consrv.ca.gov/pub/oil/regulations/PRC04.PDF
[125] Ibid.
2038-011a

Letter 4
Cont'd

4-86 Stormwater is to be routed from the site to an onsite pond with an area of approximately six acres. The DEIR states that the pond is to improve the quality of the stormwater runoff before being discharged from the site at existing outfalls to Emerson Slough.[126] The DEIR states that the pond would "serve as detention basin, which would filter out pollutants before the drainage enters Emerson Slough as well as groundwater supplies."[127] Emerson Slough in turn drains to Dutch Slough which drains to the Delta.

4-87 The DEIR states that Emerson and Dutch Sloughs may provide habitat for several special-status fish species, including Sacramento Perch and Longfin Smelt.[128] The DEIR further states:

> An Essential Fish Habitat Assessment for the adjacent Cypress Grove development, which evaluated the effects of four outfalls into Emerson Slough, concluded that adverse effects to protected fish species and their habitats would not occur because of design features for water quality treatment and flood attenuation (NOAA Fisheries 2003, Sycamore *et al.* 2003). The Assessment evaluated the outfall added in conjunction with this project; therefore, the proposed project is not expected to create adverse impacts on protected fisheries. The approved outfall at Emerson Slough is similar in function and design as the four Cypress Grove outfalls with respect to water quality treatment prior to releasing into the slough.[129]

4-88 Finally, the DEIR states:

> The outfalls have already been comprehensively studied and analyzed for CEQA purposes and permitted by the City of Oakley under the entitlements for the Cypress Grove subdivisions to the west (8678, 8679, and 8680), which have been constructed. As a result, the outfalls are not considered to be part of the proposed project.[130]

The DEIR provides no evaluation of how the onsite pond will improve the quality of the stormwater runoff before it is discharged to Emerson Slough nor does the DEIR include an evaluation of potential contaminants that may be routed by

[126] Emerson DEIR p. 3-15.
[127] Emerson DEIR p. 4.10-43.
[128] Emerson DEIR pp. 4.7-36 – 4.7-37.
[129] Emerson DEIR p. 4.7-37.
[130] Emerson DEIR p. 3-15.
2038-011a

Letter 4
Cont'd

4-88 Cont'd

stormwater to Emerson Slough. Given the sensitive habitat that is provided by Emerson and Dutch Sloughs, the DEIR should be revised to include an analysis of likely contaminants in stormwater and to identify best management practices that would reduce contaminant discharge to receiving waters, including residual pesticide contamination.

III. CONCLUSION

For the foregoing reasons, the City must prepare a supplemental or revised DEIR to analyze all of the Project's significant impacts and to develop all feasible mitigation measures to reduce those impacts to less than significant.

Sincerely,

/s/

Loulena A. Miles

LAM:bh
cc: Coalition Members

2038-011a

Letter 4 Cont'd

Pless Environmental Consulting
440 Nova Albion Way, Suite #2
San Rafael, CA 94903
(415) 492-2131 voice
(815) 572-8600 fax
petra@ppless.com

February 2, 2009

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

Re: Review of Draft Environmental Impact Report for Emerson Property, City of Oakley, CA

Dear Ms. Miles,

Per your request, I have reviewed the Draft Environmental Impact Report ("Draft EIR") for the Emerson Property Project[1] ("the Project") released by the City of Oakley ("the City") for potential environmental impacts on air quality, global climate change, and biological resources.

My qualifications as an environmental expert include a doctorate in Environmental Science and Engineering ("D. Env.") from the University of California Los Angeles and a Master of Science in Biology from the Technical University of Munich, Germany. My resume is attached to this letter.

Background

The Project would include development of a 140-acre property located in the City of Oakley within a larger planning area designated as the Cypress Corridor Planning Area. The proposed Project site has historically been used for agricultural purposes. Development would include a residential community consisting of five neighborhoods with a total of up to 578 dwelling units, primarily high-density single-family residences, and a centrally located approximately 4-acre park surrounding an approximately 6-acre stormwater pond. The Project would also include a shopping center on 23.7 acres providing approximately 278,046 square feet of commercial space.[2]

[1] City of Oakley, Draft Environmental Impact Report, Emerson Property, SCH #2007052073, November 2008.

[2] Emerson Draft EIR, pp. 3-10 – 3-12.

Letter 4 Cont'd

I. The Draft EIR's Project Description Is Inadequate

The Draft EIR's project description states that the commercial portion of the site would accommodate "pads for four major retail tenants, a garden center, two retail pads for smaller shops, and four smaller pads located in the southern portion of the site for restaurants, banks or similar uses."[3]

4-89

The Draft EIR's project description provides no further details about the likely future "major retail tenants" or "similar uses." Based on the size of Pad 1, 154,900 square feet, and the fact that it would be located next to a garden center, it appears likely that the Applicant expects a Target or similar discount store to occupy this pad. Buried in Appendix D, Transportation and Circulation, is the information that the shopping center would be "anchored by a supermarket."[4] Large discount stores and supermarkets generate more vehicle trips and associated air pollutant emissions than most other land uses. Further, the Draft EIR's project description does not describe the drive-through lane located at Pad 3, which indicates either a fast food restaurant or a bank. A fast-food restaurant would generate considerably more traffic and associated air pollutant emissions than a bank. It is therefore critical that the Draft EIR contain information about the prospective future tenants and retail uses to allow for an adequate analysis of the Project's potential impacts, *e.g.*, on traffic, air quality, noise, etc.

4-90

The Draft EIR's project description also makes no mention of the fact that the Project would include a gas station located at the southwest corner of the proposed commercial portion of the Project site adjacent to Cypress Road.[5] Based on the site map for the commercial portion of the Project site, it appears that the gas station would accommodate 16 to 18 fueling positions. The summary of square footage on the site map does not include the gas station.[6] The potential impacts of the gas station are discussed in the hazards and noise sections of the Draft EIR, but are not mentioned or analyzed elsewhere. For example, the potential impacts on air quality and health risks due to criteria air pollutant and toxic air contaminant emissions from the gasoline dispensing station and associated vehicle traffic were not analyzed. (*See* Comments III.B.1 and III.B.2.) The proposed gas station would require an operating permit from the Bay Area Air Quality Management District ("BAAQMD"), which requires a health risk assessment ("HRA") to be prepared as part of the BAAQMD's permit process pursuant to BAAQMD Rule 8-7 "Gasoline Dispensing Facilities" and BAAQMD Rule 2-2 "New Source Review." Thus, the Draft EIR should cite to the required compliance with these rules and provide the results of the health risk assessment to fully disclose all impacts associated with Project components. (*See* Comment III.B.2.)

[3] Emerson Draft EIR, p. 3-12.

[4] Emerson Draft EIR, Appendix D, p. 3.7-1

[5] Emerson Draft EIR, p. 4.5-18.

[6] Emerson Draft EIR, Figure 3-4 "Commercial Site Map," p. 3-13.

Letter 4 Cont'd

4-91 The Draft EIR's project description also fails to mention the fact that the major retail store on Pad 1 would locate three loading docks within 45 feet from the nearest residential area to the north.[7] As discussed in Comment III.C, the potential health risks including increased cancer risks associated with diesel particulate emissions from trucks accessing and idling at the loading docks have not been analyzed in the Draft EIR's air quality section. The Draft EIR should be revised to include the results of a health risk assessment for diesel particulate matter from truck engine exhaust.

4-92 In sum, the Draft EIR's project description is seriously deficient. As a result, the Draft EIR's analyses of potential impacts are flawed and fail to disclose all potential impacts resulting from the Project. The Draft EIR should be revised to contain an adequate detailed project description that discloses all proposed future uses. The revised Draft EIR must adequately analyze potential impacts associated with these uses.

II. Construction Emissions Are Significant and Not Adequately Mitigated

The Draft EIR's analysis of potential impacts on air quality due to emissions during construction of the Project is inadequate as discussed in the following comments.

II.A The Draft EIR Fails to Analyze Criteria Pollutant Emissions from Construction Equipment

4-93 The Draft EIR does not quantify or mitigate criteria pollutant[8] emissions from construction equipment engine exhaust. Instead, the Draft EIR relies on the BAAQMD's outdated *CEQA Guidelines* – by now almost a decade old – claiming that emissions of ozone precursors, *i.e.* reactive organic gases ("ROG") and nitrogen oxides ("NOx"), and carbon monoxide ("CO") from construction equipment "are already included in the emission inventory that is the basis for regional air quality plans, and thus are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area."[9] Consequently, the Draft EIR does not require any mitigation measures to address construction equipment exhaust.

---

[7] *Ibid.*

[8] Criteria pollutants include particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. These pollutants are harmful to human health and the environment and cause property damage. Of the six pollutants, particle pollution and ground-level ozone are the most widespread health threats. The U.S. Environmental Protection Agency calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards.

[9] Emerson Draft EIR, p. 4.4-13.

Letter 4 Cont'd

4-93 Cont'd

The Bay Area, including Contra Costa County, continues to exceed federal and state ambient air quality standards for ground-level ozone. The Bay Area is currently designated as non-attainment for compliance with the state 1-hour ambient air quality standard for ozone and non-attainment for compliance with the federal 8-hour ambient air quality standard for ozone. Local governments should reflect on whether to contribute to this ongoing regional ozone problem or require the use of feasible mitigation measures to protect the health of their constituents. Feasible mitigation measures that are routinely required as CEQA mitigation in other air districts with similar problems are discussed in Comment II.C.

4-94

In addition, several activities would lead to emissions before construction activities on the Project site could begin. These include the demolition of existing structures on the Project site and potentially required site cleanup activities to remove contamination of soils and groundwater. Emissions from these activities should be quantified and adequately mitigated in a revised and recirculated Draft EIR.

II.B The Draft EIR Fails to Adequately Analyze and Mitigate Diesel Exhaust Emissions from Construction Equipment

4-95

Heavy-duty diesel-powered construction equipment exhaust would release considerable amounts of diesel particulate matter during the buildout of the Project. Diesel exhaust contains nearly 40 toxic substances. In 1998 the California Air Resources Board ("CARB") formally identified the particulate fraction of diesel exhaust as a toxic air contaminant and concluded that exposure to diesel exhaust particulate matter causes cancer and acute respiratory effects.[10] The U.S. Environmental Protection Agency ("U.S. EPA") followed suit in 2002 and determined diesel exhaust as a probable human carcinogen. Diesel exhaust is estimated to contribute to more than 70 percent of the added cancer risk from air toxics in the United States.[11]

The Draft EIR recognizes that particulate matter emissions from diesel-fueled engines contain toxic air contaminants ("TACs") and acknowledges the associated potential cancer risks. Yet, the Draft EIR concludes, without any quantitative analysis whatsoever, that due to the temporary nature of construction and the generally up-wind location of the construction site, emissions from diesel-powered construction equipment would be less than significant.[12] The Draft EIR fails to recognize that the substantial diesel engine exhaust emissions that are typically associated with operating construction equipment, particularly heavy-duty diesel-powered equipment, would occur concurrently with and subsequently to the countless other construction projects in

[10] California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

[11] Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf, accessed December 8, 2008.

[12] Emerson Draft EIR, pp. 4.4-14 - 4.4-15.

Letter 4 Cont'd

4-95 Cont'd

Contra Costa County and the Bay Area. Because these emissions result in cumulatively and regionally significant public health impacts, every project should individually make the best effort to reduce emissions of carcinogenic diesel exhaust.

4-96

Lagging emission standards and very old equipment in the fleet have made construction equipment one of the largest sources of toxic diesel exhaust particulate pollution in California. An estimated 70 percent of California's construction equipment is currently not covered by federal and state regulations because it is too old.[13] Clouds of soot emitted by heavy-duty construction equipment can travel downwind for miles, then drift into heavily populated areas. A recent analysis found that air pollution from diesel construction equipment is already taking a heavy toll on the health and economic well-being of Californians. A recent study found that the San Francisco Bay Area air basin is second only to the South Coast air basin in health and economic damage from construction equipment emissions. For 2005, this includes estimates of more than 150 premature deaths, nearly 120 hospitalizations for respiratory and cardio-vascular disease, more than 280 cases of acute bronchitis, more than 3,400 incidences of asthma attacks and other lower respiratory symptoms, 44,000 days of lost work and school absences, and well over 10,000 days of restricted activity. This loss of life and productivity cost the residents of the Bay Area air basin an estimated $1.2 billion. The nearby cities of Antioch and Brentwood fall in the top 10 percent of Construction Risk Zones in the Bay Area because of region's uncontrolled sprawl and the large amounts of acreage under construction. *See* Figure 1 below.[14,15]

---

[13] Los Angeles Times, Dire Health Effects of Pollution Reported, Diesel Soot from Construction Equipment Is Blamed for Illnesses and Premature Deaths, December 6, 2006; http://www.distributedworkplace.com/DW/News/California/Dire%20health%20effects%20of%20pollution%20reported.doc, accessed February 2, 2009.

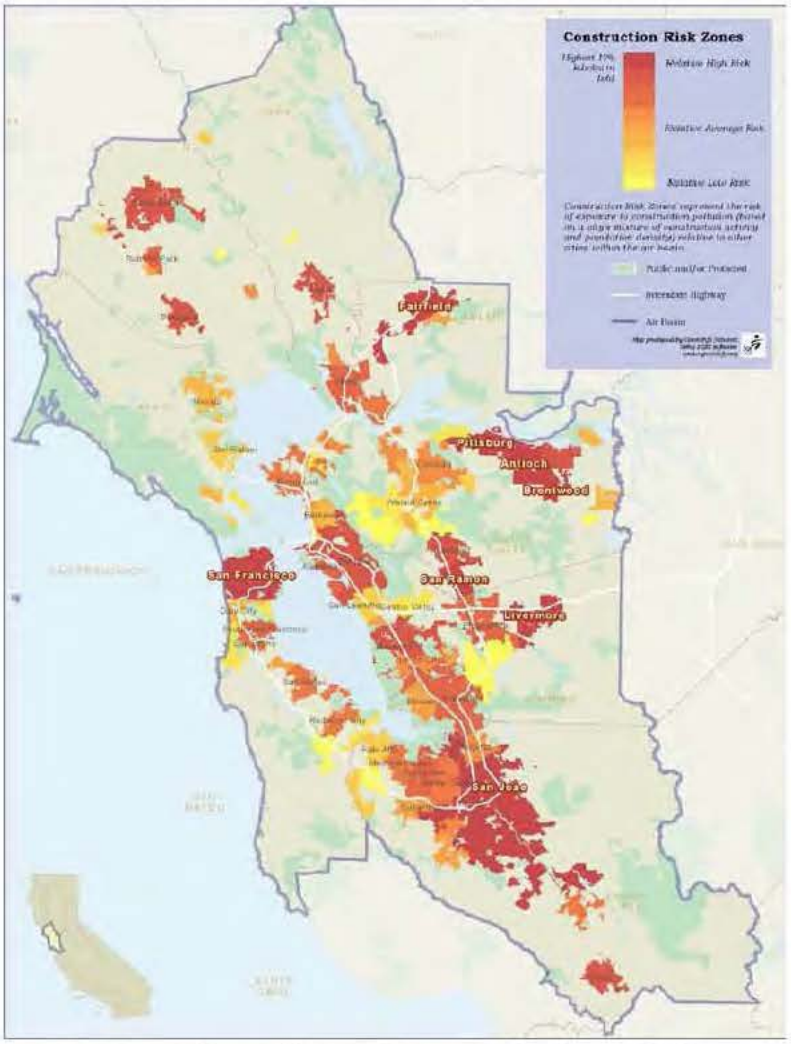
[14] These estimates are conservative because they do not include emissions from a large number of small construction projects (residential and commercial and projects smaller than 1 acre in size). Further, John Hakel, vice president of the Associated General Contractors, which represents construction equipment fleet owners and general contractors, indicated that the report appeared to underestimate the sheer volume of construction equipment.

[15] Union of Concerned Scientists, Digging up Trouble, November 2006; http://www.ucsusa.org/assets/documents/clean_vehicles/digging-up-trouble.pdf, accessed December 8, 2008.

Miles, February 2, 2009
Page 6

Letter 4 Cont'd

Figure 1: Construction Pollution Risk in the San Francisco Bay Area Air Basin



From: Union of Concerned Scientists, Digging up Trouble, November 2006

4-96 Cont'd

Because the Draft EIR erroneously concludes that diesel particulate emissions from construction equipment would be less than significant, it fails to require any mitigation measures to address these emissions. The Draft EIR should be revised to address diesel particulate matter emissions and require all feasible mitigation.

Letter 4 Cont'd

II.C Mitigation Measures to Reduce Exhaust Emissions from Construction Equipment Are Feasible and Should Be Required

There are a number of options available to cost-effectively reduce emissions, including diesel particulate matter emissions, from construction equipment that could substantially reduce exhaust emissions. Options for controlling emissions from construction equipment include requiring the use of best practices in construction management and the use of new or newer equipment. Emissions from existing older construction equipment can be dramatically reduced following the five "Rs" of emissions reduction, *i.e* refuel, replace, rebuild, repower, and retrofit. Both the CARB and the U.S. EPA maintain lists of recommended diesel retrofit alternatives and alternative fuels. Alternative fuels in combination with retrofit technologies or in new construction equipment can achieve emission reductions of up to 89 percent PM10, 90 percent CO, 93 percent ROG, and 40 percent NOx depending on the engine type of on-road or off-road equipment.[16,17] A combination of these options provides the greatest benefit and is frequently required as CEQA mitigation for other residential development projects. Feasible mitigation measures include:

4-97

- Require the contractor to use only newer construction equipment or equipment that is retrofitted to meet Tier 2 or higher emission standards set by the U.S. EPA.
- Require the contractor to submit a comprehensive inventory (*i.e.* make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours or more for the construction project. Require the contractor to provide a plan for approval demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project-wide fleet average 40 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average.
- Require the use of construction equipment meeting the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, §2423(b)(1) unless such engine is not available for a particular item of equipment. Require construction equipment engines to meet Tier 1 California standards if equipment with engines that meet Tier 2 standards are not available, unless such engine is not available for a particular item of equipment. Require that the construction company keep documentation if the required Tier 2 or Tier 1 equipment is not available within the area or within a reasonable timeframe.

[16] U.S. Environmental Protection Agency, Voluntary Diesel Retrofit Program, Verified Products; http://www.epa.gov/otaq/retrofit/verif-list.htm, accessed February 2, 2009.

[17] California Air Resources Board, Currently Verified Technologies, http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm; accessed February 2, 2009.

Letter 4 Cont'd

4-97 Cont'd

- Require that construction equipment that does not meet, at a minimum, Tier 1 standards, be retrofitted with one or a combination of the following post-combustion controls: (If retrofitting pre-Tier 1 equipment is not feasible, require that the contractor document why retrofitting is not feasible.)
  a. Diesel particulate filters
  b. Diesel oxidation catalysts
  c. Selective catalytic reduction
  d. Lean NOx catalysts
  e. Exhaust gas recirculation
- For pre-Tier 1 equipment which cannot be reasonably retrofitted, use alternative power, alternative fuels, and/or fuel additives instead, such as:
  a. Emulsified (aqueous) diesel fuel
  b. Fuel borne-catalysts
  c. Compressed natural gas or liquefied natural gas
  d. Propane, ethanol, and methanol
  e. Electric power
- Instead of a diesel-powered generator, provide for on-site electrical service for hand tools such as saws, drills, and compressors.
- Limit idling time to 3 minutes for all construction equipment and haul trucks.
- Provide for on-site meals for construction workers by arranging a lunch wagon to visit the construction site.
- Suspend use of all construction equipment operations during second stage smog alerts.
- Prohibit open burning of removed vegetation. Vegetative material shall be chipped or delivered to waste or energy facilities.
- Require that the engine size of construction equipment shall be the minimum practical size to support the required scope of work for the equipment.
- Require construction company to document that all workers will carpool to the greatest extent feasible.
- Locate construction equipment away from sensitive receptors such as fresh air intakes to buildings, air conditioners and operable windows.
- Require the contractor to document that all construction equipment has been properly maintained with all maintenance repairs completed at an off-site location, including proper tuning and timing of internal combustion engines.
- Ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 20 percent opacity for more than three minutes in any one hour.
- Require an on-site construction manager. Duties of the construction mitigation manager typically include but are not limited to implementing a comprehensive communications strategy including establishment of a

Letter 4 Cont'd

construction mitigation hotline; creating construction surveys and monitoring plans to control dust, vibrations, work hours, and noise as well as issues such as preventing contractor parking on residential streets; implement a procedure to address complaints in a timely and effective manner; providing transportation plans for truck routes and queuing.

4-97 Cont'd

A combination of these measures is frequently required as CEQA mitigation for similar projects and is feasible here. Thus, the City has the choice to reduce the public health and economic burden that results from the use of construction equipment in the Bay Area and Contra Costa County by requiring the use of technically feasible and cost-effective solutions that are available today. The Draft EIR should be revised to address air pollutant emissions from Project construction, particularly diesel particulate matter, and require adequate mitigation. This would allow the City to make an informed decision that takes into account the consequences on public health impacts associated with Project construction.

II.D The Draft EIR Fails to Adequately Mitigate Fugitive Dust Emissions

Again relying on the BAAQMD's *CEQA Guidelines*, the Draft EIR concludes that potential impacts from emissions of fugitive dust particulate matter would be considered less than significant if all BAAQMD-recommended mitigation measures are implemented.[18] Yet, the Draft EIR fails to require several control measures that the BAAQMD strongly recommends at construction sites that are "large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions." These mitigation measures include:

4-98

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading and other construction activity at any one time.[19]

Because the Project site is large in size and located adjacent to a residential development to the east and several residences to the south, implementation of these mitigation measures should be required for Project construction.

[18] Emerson Draft EIR, p. 4.4-13.

[19] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, 1999, Table 2, p. 15.

Letter 4
Cont'd

4-98
Cont'd

In addition, there are numerous additional relevant and reasonable measures contained in the CEQA Guidelines and rules of air districts and other agencies that should be required for this Project. Further, several agencies have conducted comprehensive studies of fugitive dust control measures to bring their region into compliance with national ambient air quality standards on PM10. For example, the South Coast Air Quality Management District ("SCAQMD") has sponsored research, passed regulations (*e.g.*, Rule 403),[20] and published guidelines that identify best management practices for controlling fugitive dusts at construction sites. The *Rule 403 Implementation Handbook*[21] contains a comprehensive list of such measures. Clark County, Nevada, has also sponsored research, passed regulations (Rule 94), and published best management practices for controlling fugitive dust from construction activities.[22] Clark County's *Construction Activities Notebook* contains a comprehensive list of best management practices. Similarly, Arizona has developed guidance to control fugitive PM10 emissions.[23] Examples of such feasible mitigation measures include:

- For large tracts of disturbed land, prevent access by fencing, ditches, vegetation, berms, or other barriers; install perimeter wind barriers 3 to 5 feet high with low porosity; plant perimeter vegetation early; and for long-term stabilization, stabilize disturbed soil with dust palliative or vegetation or pave or apply surface rock. (CCHD)
- In staging areas, limit size of area; apply water to surface soils where support equipment and vehicles are operated; limit vehicle speeds to 15 mph; and limit ingress and egress points. (CCHD)
- For stockpiles, maintain at optimum moisture content; remove material from downwind side; avoid steep sides or faces; and stabilize material following stockpile-related activity. (CCHD)
- To prevent trackout, pave construction roadways as early as possible; install gravel pads; install wheel shakers or wheel washers, and limit site access. (CCHD, SLOCAPCD)
- When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. (BAAQMD,

[20] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403, Fugitive Dust and Proposed Rule 1186, PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations, February 14, 1997.

[21] South Coast Air Quality Management District, Rule 403 Implementation Handbook, January 1999.

[22] P.M. Fransioli, PM10 Emissions Control Research Sponsored by Clark County, Nevada, Proceedings of the Air &Waste Management Association's 94th Annual Conference & Exhibition, Orlando, FL, June 24-28, 2001.

[23] Arizona Department of Environmental Quality (ADEQ), Air Quality Exceptional and Natural Events Policy PM10 Best Available Control Measures, June 5, 2001.

Letter 4
Cont'd

4-98
Cont'd

SJVUAPCD, Rule 403 Handbook, ADEQ) *(Maintain at least 12 inches of freeboard.* (SLOCAPCD)

- Where feasible, use bedliners in bottom-dumping haul vehicles. (Rule 403 Handbook)
- Grade each phase separately, timed to coincide with construction phase or grade entire project, but apply chemical stabilizers or ground cover to graded areas where construction phase begins more than 60 days after grading phase ends. (Rule 403 Handbook)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. (SJVUAPCD, ADEQ)
- During initial grading, earth moving, or site preparation, projects 5 acres or greater may be required to construct a paved (or dust palliative treated) apron, at least 100 ft in length, onto the project site from the adjacent site if applicable. (BCAQMD)
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hrs. (BCAQMD, MBUAPCD, CCHD)
- Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions. (BCAQMD)
- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads. (SBCAPCD)
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. (SBCAPCD, SLOCAPCD)
- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans. (SBCAPCD, SLOCAPCD)
- All roadways, driveways, sidewalks, etc., to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. (SLOCAPCD)
- Barriers with 50 percent or less porosity located adjacent to roadways to reduce windblown material leaving a site. (Rule 403 Handbook)
- Limit fugitive dust sources to 20 percent opacity. (ADEQ)
- Require a dust control plan for earthmoving operations. (ADEQ)

Letter 4 Cont'd

4-98 Cont'd

Many of these mitigation measures are frequently required as CEQA mitigation and are equally feasible for construction of the Project. The City should require all feasible mitigation to protect the health of its residents.

III. Project Impacts on Air Quality and Public Health Are Not Adequately Analyzed and Not Adequately Mitigated

4-99

The Draft EIR finds that impacts related to regional air pollutant emissions as a result of the Project would be potentially significant. In addition, the Draft EIR finds that cumulative effects of the Project on air quality would also be potentially significant. The Draft EIR finds that regional and cumulative impacts would remain significant and unavoidable after implementation of a number of proposed mitigation measures. As discussed in the following comments, the Draft EIR by far underestimates emissions from the Project, fails to analyze potential health risks associated with toxic air contaminant emissions, and fails to implement all feasible mitigation measures to reduce the Project's significant impacts on local and regional air quality. The Draft EIR should be revised to address these issues.

III.A The Draft EIR Fails to Adequately Address PM2.5 Emissions

4-100

Historically, health impacts due to particulate matter were regulated through ambient air quality standards for particulate matter smaller than 10 micrometers ("PM10"). However, a substantial amount of important new research has been published, documenting new health impacts at much lower concentrations and for different size fractions of particulate matter than was previously known and reflected in ambient air quality standards.[24,25] This new information led the U.S. EPA and California to propose new ambient air quality standards for particulate matter smaller than 2.5 micrometers ("PM2.5"). These standards are not subsets of the existing PM10 standards, but new standards for a separate pollutant with distinguishable impacts on human health. As illustrated by the State and Federal ambient air quality standards, these effects occur at different concentrations for each pollutant. For example, the State annual ambient air quality standards for PM10 and PM2.5 are 20 micrograms per cubic meter ("$\mu g/m^3$") and 12 $\mu g/m^3$, respectively, indicating that health effects associated with PM2.5 occur at considerably lower mass concentrations than health effects associated with PM10.

Despite the establishment of federal and state ambient air quality standards for PM2.5 more than a decade ago, the BAAQMD has not developed a threshold of significance for this pollutant. To analyze the significance of this pollutant, the Draft EIR states that for purposes of its analysis, PM2.5 impacts would be considered significant if

[24] U.S. Environmental Protection Agency, Air Quality Criteria for Particulate Matter, Report EPA/600/P-95-001aF through 001cF, April 1996.

[25] U.S. EPA, Air Quality Criteria for Particulate Matter, Second External Review Draft, March 2001.

Letter 4 Cont'd

4-100 Cont'd

project emissions of PM10 exceed 80 pounds per day.[26] Consequently, the Draft EIR does not quantify PM2.5 emissions. This "evaluation" of PM2.5 is inadequate.

To understand the Project's potential individual and cumulative adverse impacts on public health and welfare, it is important to understand the severity of health impacts caused by elevated concentrations of PM2.5 in the ambient air. Since 1996, more than 2,000 peer-reviewed studies have been published validating earlier epidemiologic studies that link both acute and chronic fine particle pollution with serious morbidity and mortality. This research has also expanded the list of health effects associated with fine particle pollution and has identified health effects at considerably lower exposure levels than previously reported. Overwhelming scientific evidence shows that long-term exposure to fine particulate air pollution contributes to pulmonary and systemic oxidative stress, inflammation, progression of atherosclerosis, and risk of ischemic heart disease and death.

A recent study found that each 10-$\mu g/m^3$ increase in PM2.5 air pollution was associated with approximately a 6 percent increase in cardiopulmonary mortality and an 8 percent increase in lung cancer mortality.[27] Short-term exposure is equally damaging and contributes to complications of atherosclerosis, such as plaque vulnerability, thrombosis, and acute ischemic events. The U.S. EPA concluded with respect to short-term exposure studies that "epidemiological evidence was found to support likely causal associations between PM2.5 and both mortality and morbidity from cardiovascular and respiratory diseases."[28] In response to this new information, the U.S. EPA recently tightened the federal 24-hour PM2.5 ambient air quality standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$, effective December 17, 2006.[29,30]

A recently published study of 12,865 patients evaluated the role of fine particulate matter exposure in triggering acute ischemic heart disease event. The study found a sharply elevated risk of heart attacks for people with clogged arteries after just a day or two of short-term exposure to fine particulate matter. This study was published

---

[26] Emerson Draft EIR, p. 4.4-12.

[27] A.A. Pope III, R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Ito, G.D. Thurston, Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, Journal of the American Medical Association, v. 287, no. 9, pp. 1132-1141, 2002.

[28] U.S. Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Provisional Assessment of Recent Studies on Health Effects of Particulate Matter Exposure, EPA/600/R-06/063, July 2006; http://www.epa.gov/oar/particlepollution/pdfs/ord_report_20060720.pdf, accessed July 5, 2007.

[29] U.S. Environmental Protection Agency, Office of Air Quality Standards and Planning, September 2006 Revisions to the National Ambient Air Quality Standards for Particle Pollution, September 2006.

[30] U.S. Environmental Protection Agency, National Ambient Air Quality Standards for Particulate Matter, Final Rule, Federal Register, 40 CFR Part 50, Vol. 71, No. 200, pp. 61144-61233, October 17, 2006.

Letter 4 Cont'd

4-100 Cont'd

in the American Heart Association's peer-reviewed journal *Circulation*.[31] One coauthor of the study stated that the results should prompt heart doctors to advise those with coronary heart disease to stay indoors as much as possible on particularly sooty days and that he was already changing his advice to patients based on the results – even advising in severe cases to move to a less polluted environment.[32]

Therefore, the Draft EIR must quantify PM2.5 emissions and determine the Project's potential impacts with respect to attainment of state and federal short-term and annual ambient air quality standards.

III.B Emissions Associated with Gas Station Were Not Analyzed

4-101

As discussed above, the Project would include a gas station located in the southern portion of the proposed commercial site, adjacent to the proposed entrance off Cypress Road. The Draft EIR's air quality section makes no mention of the gas station and does not account for gasoline vapor emissions from the gas station or exhaust emissions from vehicle traffic accessing the gas station.

III.B.1 Vehicular and Area Source Emissions

4-102

The Draft EIR's air quality analysis estimated regional emissions associated with Project vehicle use with URBEMIS 2007 for 578 residential units and for 278,000 square feet retail space in a strip mall.[33] The URBEMIS program estimates on-road vehicular emissions based on typical trip generation rates for a certain land use type and area source emissions associated with those land uses (natural gas combustion, landscape equipment, architectural coatings, etc.). The Draft EIR's air quality analysis did not include emissions associated with vehicles accessing the gas station or area emissions associated with the gas station.

I estimated vehicular and area source emissions associated with a 16-pump gas station with URBEMIS 2007, as summarized in Table 1. Printouts of the URBEMIS model runs are attached to this letter.

---

[31] Pope C.A. III, Muhlestein J.B., May H.T., Renlund D.G., Anderson J.L., Horne B.D., Ischemic Heart Disease Events Triggered by Short-Term Exposure to Fine Particulate Air Pollution, Circulation, No. 114, pp. 2443–2448; abstract available at http://circ.ahajournals.org/cgi/content/abstract/114/23/2443, accessed July 5, 2007.

[32] Los Angeles Times, Dire Health Effects of Pollution Reported, Diesel Soot from Construction Equipment Is Blamed for Illnesses and Premature Deaths, December 6, 2006.

[33] Emerson Draft EIR, Appendix D, Air Quality Impact Analysis for the Proposed Emerson Ranch Project, City of Oakley, June 2008, Attachment 2: URBEMIS 2007 Program; *see* URBEMIS printout p. 3, *see* "Land Use Type."

Letter 4 Cont'd

Table 1: Gas station vehicular and area source emissions (lb/day)

	ROG	NOx	PM10	PM2.5
Summer				
Vehicular Emissions	18.18	24.12	33.14	6.36
Area Source	0.13	0.03	0.01	0.01
Total Summer	**18.31**	**24.15**	**33.15**	**6.37**
Winter				
Vehicular Emissions	23.29	35.96	33.14	6.36
Area Source	0.01	0.01	0.00	0.00
Total Winter	**23.30**	**35.97**	**33.14**	**6.36**
BAAQMD Significance Threshold	**80**	**80**	**80**	—*
Percentage of Threshold	**29%**	**45%**	**41%**	**n/a**
Draft EIR Total Project Emissions, Table 4.4-5	**158.5**	**129.5**	**202.6**	**

* The BAAQMD has not established a threshold of significance for PM2.5.
** The Draft EIR did not quantify PM2.5 emissions.

4-102 Cont'd

The Draft EIR's URBEMIS model run shows that the strip mall and residential units would generate a total of 17,470 vehicle trips per day.[34] The gas station would add an additional 2,604 vehicle trips per day. Table 1 shows that emissions associated with these additional vehicle trips plus area source emissions associated with the gas station would substantially contribute to Project emissions and account for about 30 to 45 percent of the BAAQMD's significance thresholds for emissions of reactive organic gases ("ROG"), nitrogen oxides ("NOx"), and particulate matter smaller than 10 micrometers ("PM10"). These emissions would substantially increase the Project's already significant emissions and contribute to existing regional air quality problems such as ozone formation and particulate matter concentrations in excess of ambient air quality standards.

III.B.2 Gasoline Vapor Emissions

4-103

In addition to the vehicular and area source emissions discussed in Comment III.B.1 above, operation of the gas station would result in release of gasoline vapors from breathing, refueling and spillage while dispensing gasoline and during refilling of the gas station's underground storage tanks. Gasoline vapors include ROGs and a number of hazardous substances including toxic air contaminants ("TACs") such as benzene, toluene, ethlybenzene, xylenes, methyl tertiary butyl ether ("MTBE"), and other trace toxics. These TACs are pollutants with localized effects that must be analyzed in a health risk assessment. ROG emissions contribute to regional ozone formation. The Draft EIR contains no discussion or analysis of ROG and TAC emissions associated with the proposed gas station.

[34] Emerson Draft EIR, Appendix D, Air Quality Impact Analysis for the Proposed Emerson Ranch Project, City of Oakley, June 2008, Attachment 2: URBEMIS 2007 Program; *see* URBEMIS printout p. 3, *see* "Total Trips" under "Land Use Type."

Letter 4 Cont'd

4-104 The California Air Resources Board document *Air Quality and Land Use Handbook: A Community Health Perspective* recommends avoiding siting new sensitive land uses within 300 feet of facilities such as a dry cleaning operation or a large gas station.[35] The Project should therefore maintain a minimum buffer of 300 feet between the gas station and sensitive receptors including residences located south of East Cypress Road to the east of Machado Lane. In addition, the City should require that no dry cleaning facility may occupy any of the building pads within 300 feet of any residence. The City should undertake an analysis of localized impacts to ensure that all feasible measures are implemented to protect the health of nearby sensitive receptors.

4-105 Review of BAAQMD engineering evaluations and permits for similar size gas stations indicates that the proposed gas station would emit more than 10 lbs of ROGs in a single day.[36] Thus, the best available control technology ("BACT") requirement of BAAQMD Rule 2-2-301 is triggered. As part of the BAAQMD's permit process for the gasoline station pursuant to Rule 2-2 "New Source Review," a human health risk assessment ("HRA") must be prepared for these facilities. The increased incremental carcinogenic health risk attributable to similar size gas stations typically exceeds one per million, triggering the use of best available control technology for toxics ("T-BACT") per BAAQMD Rule 2-5-301. T-BACT for gasoline dispensing facilities is considered the use of California Air Resources Board ("CARB")-certified Phase I and Phase II enhanced vapor recovery equipment. Rule 2-2 requires that the incremental cancer health risk attributable to the gas station not exceed 10 in one million if the gas station includes T-BACT. This health risk assessment should be part of the Draft EIR to disclose to the public all impacts on human health associated with the Project.

III.C Mobile Source Diesel Particulate Matter Emissions Were Not Analyzed

4-106 The shopping center is expected to receive several large trucks and independent vendor-owned smaller parcel trucks daily (*e.g.*, soda, chips, etc.). Medium-duty and heavy-duty trucks would be circulating along the western and northern boundaries of the Project site. Trucks would access the site from the signalized intersection at Cypress Road, turn left and proceed along the western property boundary of the site and turn right to enter the loading dock area at Pad 1. Heavy-duty trucks would back up to rubberized gasket loading bays, with all unloading done directly into the building. Medium duty trucks would typically park near the loading dock area, and unloading activities would occur directly out of the truck, at approximately 60 to 80 feet from the residential property lines north of the market.[37] In addition, the Project site would be serviced by diesel-fueled waste management vehicles.

---

[35] California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005; http://www.arb.ca.gov/ch/handbook.pdf, accessed February 9, 2009.

[36] *See*, Bay Area Air Quality Management District, Public Notices – Permit Applications; http://www.baaqmd.gov/pmt/public_notices/.

[37] Emerson Draft EIR, pp. 4.5-16 – 4.5-17.

Letter 4 Cont'd

4-106 Cont'd

Depending on the truck routes and the distance to the nearest sensitive receptors, particulate emissions from diesel-fueled trucks could potentially create significant adverse air toxics impacts including increased cancer risk. Typically, these impacts are evaluated in a human health risk assessment. Here, the Draft EIR fails entirely to address or to even discuss diesel exhaust emissions from trucks. Thus, the Draft EIR should be revised to quantify diesel exhaust emissions and prepare a mobile source health risk assessment.

III.D Operational Emissions Are Not Adequately Mitigated

4-107

The Draft EIR finds that operational emissions associated with the Project, emissions associated with vehicular traffic and area source emissions, would by far exceed the BAAQMD's thresholds of significance for PM10 and the ozone precursors ROG and NOx. To address these significant emissions, the Draft EIR requires the Applicant to implement mitigation measures "submitted for the review and approval of the City Engineer" and provides a list of measures that "could" be included in this review. The Draft EIR concludes that the proposed mitigation measures have the potential to reduce Project-related regional emissions by 10 to 20 percent. The Draft EIR concludes that even with a reduction of this magnitude, Project emissions would remain well above the BAAQMD thresholds of significance and would therefore be significant and unavoidable.[38]

III.D.1 The Draft EIR's Proposed Mitigation Measures Are Not Enforceable

The Draft EIR's language renders the proposed mitigation measures unenforceable. Specifically, the Applicant is required to implement mitigation measures "submitted for the review and approval of the City Engineer." This future review improperly defers mitigation and fails to demonstrate that the City requires all feasible mitigation. Instead, the City should formulate specific and binding mitigation measures and include them in a revised Draft EIR.

4-108

The BAAQMD's CEQA Guidelines explicitly recommend that a lead agency be specific regarding implementation of mitigation measures:

> "The environmental document should describe each mitigation measure in detail, identify who is responsible for implementing the measure, and clearly explain how and when the measure will be implemented. Methods for assessing the measure's effectiveness once it is in place, and possible triggers for additional mitigation if necessary, are also desirable. This level of detail regarding mitigation measure implementation frequently is not addressed until the preparation of the mitigation monitoring and reporting program, which often takes place very late in the environmental review process. In order to reliably assess the effectiveness and feasibility of mitigation measures, however, the

[38] Emerson Draft EIR, pp. 4.4-16 – 4.4-17.

Letter 4 Cont'd

4-108 Cont'd

District believes it is necessary to consider the specifics of mitigation measure implementation as early in the environmental review process as possible."[39]

III.D.2 Additional Feasible Mitigation Measures Are Available to Reduce Project Operational Emissions

The Draft EIR failed to research additional mitigation measures that could be implemented to reduce the Project's significant emissions. There are numerous other measures available that are frequently required by other lead agencies as CEQA mitigation. Many of these measures are equally feasible for the Project and should therefore be required. For example, the SCAQMD recommends the following measures:

4-109

- Require the use or newer, lower-emitting trucks for the delivery of supplies to the facility.
- Require trucks to be offloaded promptly to prevent trucks idling for longer than five minutes in compliance with state law.
- Provide electrical hook-ups for trucks that need to cool their load.
- Electrify service equipment.
- Install solar panels on roofs to supply electricity for air conditioning.
- Install central water heating systems to reduce energy consumption.
- Install high energy-efficient appliances, such as water heaters, refrigerators, furnaces and boiler units.
- Use double-paned windows to reduce thermal heat.
- Install automatic lighting on/off controls and energy-efficient lighting.
- Require retail tenants to provide flyers and pamphlets for truck drivers educating them on the health effects of diesel particulate and the importance of being a good neighbor.

In addition, there are hundreds of mitigation measures that would reduce the Project's impacts on local and regional air quality. Several of these measures would also address the Project's contribution to global climate change and are discussed below in Comment IV. Given the Project's significant long-term operational emissions and the Bay Area air basin's nonattainment status for ozone and PM10, the City should consider implementing all feasible mitigation measures.

For example, the City could require implementation of the following landscaping-related mitigation measures:

- Landscape with drought-resistant species, and use groundcovers rather than pavement to reduce heat reflection.

[39] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, pp. 57 - 58.

Letter 4 Cont'd

4-109 Cont'd

- Utilize CARB-certified or electric landscaping equipment in project and tenant operations.
- Introduce electric lawn and garden equipment exchange program.
- Plant shade trees with low ozone-forming potential, *e.g.*, in parking lots and along residential streets, as discussed below.

Plant Shade Trees with Low Ozone-Forming Potential

The Project would contribute to the urban heat island effect by converting open space to blacktop. Planting shade trees on parking lots and around buildings can mitigate this effect. By shading homes and offices, trees reduce power generation emissions. Fully grown, properly placed trees can cut home cooling costs by up to 40 percent. By cooling, trees also reduce evaporative emissions from vehicles and other fuel storage.[40] Additionally, general cooling reduces the speed of chemical reactions that lead to the formation of ozone and particulate matter, which are damaging to the human respiratory system. Trees also contribute to the removal of air pollutants. Furthermore, trees reduce overall greenhouse gas emissions through carbon sequestration and storage.[41,42] Many municipalities, including the nearby City of Concord, recognize these beneficial impacts of shade trees.

4-110

However, trees and other plants can emit a substantial amount of hydrocarbons, so-called biogenic volatile organic compounds ("VOCs"). Many of these compounds are potent reactive organic gases that can react with nitrogen oxides emitted by cars and power plants to form ozone and therefore can adversely affect local and regional air quality. In Contra Costa County, about 15 percent of total VOC emissions come from biogenic sources. Emission rates for biogenic VOCs vary significantly from one tree species to the next. Some plant species can release as much as 10,000 times more biogenic VOCs than others. Low-emitters include the Chinese Hackberry, Avocado, Peach, Ashes, Sawleaf Zelkova and the Eastern Redbud. A few of the high emitters include eucalyptus, London Plane, California Sycamore, Liquidambar, Chinese Sweet Gum, Goldenrain Tree, and the Scarlet, Red and Willow Oaks.[43,44] Large-scale planting can therefore affect air quality through regional concentrations of ozone and fine particles. To reduce ozone concentrations in urban areas, it is therefore important to use low emitting species. When selected appropriately, trees and other plants can improve

[40] Sacramento Municipal Utility District, Free Shade Trees; http://www.smud.org/residential/trees/.

[41] California Air Resources Board, Trees and Air Quality; http://www.arb.ca.gov/research/ecosys/tree-aq/tree-aq.htm.

[42] U.S. Environmental Protection Agency, Vegetation & Air Quality.

[43] California Air Resources Board, News Release 01-20, July 9, 2001; http://www.fraqmd.org/Tree%20Emissions.htm.

[44] Cal Poly State University, Urban Forest Ecosystems Institute, SelecTree, A Tree Selection Guide; http://selectree.calpoly.edu/.

Letter 4 Cont'd

local cooling, reduce energy use, and slow the chemical reactions that lead to the formation of ozone or urban smog.[45,46]

The planting of low VOC-emitting shade tree species is a feasible mitigation measure that could substantially reduce ozone formation and greenhouse gas emissions. The EIR for the San Ramon City Center Project, also located in the San Francisco Bay Area, included such a mitigation measure requiring that at least 50 percent of the total project landscaping consist of drought-tolerant trees with low ozone-forming potential and identified climate-specific tree species with low ozone forming potential.[47] There are several resources available for the City of Oakley to identify climate-specific trees that are least likely to emit high levels of biogenic VOCs, including the tree species database maintained by the Urban Forest Ecosystems Institute at Cal Poly State University.[48] The East Bay Municipal Utility District's publication "Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region" provides information on drought-tolerance, exposure, and climate zones.[49] The U.S. Forest Service's Urban Forest Effects model ("UFORE") can be used to provide estimates of hourly amount of pollution removed by the urban forest, and associated percent air quality improvement throughout a year. Pollution removal is calculated for ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide and particulate matter (<10 microns). The model also provides estimates of hourly urban forest volatile organic compound emissions and the relative impact of tree species on net ozone and carbon monoxide formation throughout the year and total carbon stored and net carbon annually sequestered. In addition, the model provides information on effects of trees on building energy use and consequent effects on carbon dioxide emissions from power plants.[50]

4-110 Cont'd

IV. The Draft EIR Fails to Adequately Analyze and Mitigate Emissions of Greenhouse Gases

4-111

The Draft EIR's discussion of Project-related greenhouse gas emissions ("GHG") and resulting impacts on global climate change is deeply flawed.

---

[45] California Air Resources Board, Trees and Air Quality; http://www.arb.ca.gov/research/ecosys/tree-aq/tree-aq.htm.

[46] U.S. Environmental Protection Agency, Vegetation & Air Quality.

[47] City of San Ramon, San Ramon City Center, Final Subsequent Environmental Impact Report, San Ramon, Contra Costa County, California, SCH# 2007042022, October 26, 2007, Mitigation Monitoring and Reporting Program, MM-AIR-7, p. 4 and Appendix B "Low-OFP Trees Listed in EBMUD's "Plants and Landscapes for Summer-Dry Climates."

[48] Cal Poly State University, Urban Forest Ecosystems Institute, SelecTree, A Tree Selection Guide; http://selectree.calpoly.edu/.

[49] East Bay Municipal Utility District, Plants and Landscapes for Summer-Dry Climates of the San Francisco Bay Region, 2004.

[50] U.S. Forest Service, Assessing Urban Ecosystems; http://itreetools.org/urban_ecosystem/introduction_step1.shtm.

Letter 4
Cont'd

4-111 Cont'd The Draft EIR identifies carbon dioxide ("CO_2") emissions from vehicles as one of the major sources of GHG emissions attributable to the Project. However, the Draft EIR fails to discuss any other major sources such as greenhouse gas emissions associated with energy generation and the effect the energy efficiency of the Project's components will have on increased electricity demand.

4-112 The Draft EIR argues that "given the overwhelming scope of global climate change, a single development project would be unlikely to have an individually discernable effect on global climate change." The Draft EIR also finds that it is too speculative to determine the significance of impacts that implementation of the Project may have on global climate change and, as a result, does not require any mitigation measures that specifically address greenhouse gas emissions. The Draft EIR notes that mitigation measures included in the air quality chapter would also reduce greenhouse gases.[51]

4-113 Here, the Draft EIR completely misses the point. A project's individual contribution to the worldwide greenhouse gas emissions inventory may indeed be negligible. However, it is the cumulative impact of all those individually negligible contributions that ultimately lead to global climate change. It is the City's responsibility under California's 2006 Global Climate Solutions Act ("AB-32") to minimize its contribution to this global problem. The uncontrolled sprawl of thousands of residential developments across the United States contributes to ever-increasing commutes and thereby increases air pollutant and greenhouse gas emissions. The City should evaluate the impacts of this development on long commutes and on community cohesiveness and 'livability' before supporting more suburban sprawl. This would include an alternatives analysis that adequately addresses all infill possibilities before paving over prime farmland.

4-114 If the City finds that the Project is, in fact, the only viable and environmentally preferable alternative, it should require all feasible mitigation to minimize the Project's contribution to global climate change. In considering which mitigation measures to implement, the City has many resources available. It can consider, for example, the dozens of measures set out in the "CEQA and Climate Change" white paper issued by the California Air Pollution Control Officers Association ("CAPCOA"),[52,53] those developed by other municipalities, counties, and air districts and required in CEQA documents, and those set forth in the list of greenhouse gas mitigation measures

[51] Emerson Draft EIR, pp. 4.4-19 – 4.4-21.

[52] Emerson Draft EIR, p. 17-28.

[53] California Air Pollution Control Officers Association, CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008.

Letter 4 Cont'd

4-114 Cont'd

published by the California Attorney General.[54] Comments IV.A through IV.C below summarize additional feasible mitigation measures and discuss some measures in more detail. Many of these measures would also reduce the Project's impacts on local and regional air quality.

IV.A Building Design and Energy Efficiency

Buildings are responsible for about 37 percent of energy-related GHG emissions in North America and studies have found that implementation of "[c]urrent best practices can reduce carbon emissions for buildings by at least 60 percent for offices and up to 70 percent for homes."[55] In addition to the measures proposed by the Draft EIR, the following measures could reduce greenhouse gas emissions from the Project:

4-115

- Install double-paned windows.
- Shade HVAC equipment from direct sunlight.
- Use ozone-destruction catalyst on air condition systems.
- Install the most efficient commercially available heating and heating and cooling systems; use solar heating, automatic covers, and the most efficient pumps and motors for pools and spas.
- Install centralized and/or on-demand water-heating systems.[56]
- Develop and follow a "green streets guide" that requires light emitting diodes ("LEDs") for traffic, street and other outdoor lighting, minimal amount of concrete and asphalt, permeable pavement, and incorporating shade trees where feasible.[57]
- Limit the hours of operation of outdoor lighting.
- Use energy-efficient low sodium parking lot and street lights.
- Provide education on energy efficiency.
- Reduce standard paving. (*See* Comment IV.A.1.)

---

[54] Edmund G. Brown, Attorney General, State of California, The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level, updated May 21, 2008; http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, accessed August 20, 2008.

[55] U.S. Climate Change Science Program, First State of the Carbon Cycle Report: The North American Carbon Budget and Implications for the Global Carbon Cycle, May 2006, p. 96.

[56] Ventura County Air Pollution Control District, Ventura County Air Quality Management Plan, Appendix G-94, Guidelines for the Preparation of Air Quality Impact Analyses, October 1989.

[57] *See* Irvine Sustainable Travelways "Green Street" Guidelines; www.ci.irvine.ca.us/civica/filebank/blobdload.asp?BlobID=8934; and CoolHouston Plan; www.harc.edu/Projects/CoolHouston.

Letter 4 Cont'd

4-115 Cont'd

IV.A.1 Reduce Standard Paving

Parking lots and roads are typically constructed by mixing asphalt with aggregate. The aggregate provides strength and the asphalt binds the aggregate together against the forces of traffic and weather. The resulting pavement is black and absorbs about 85 to 95 percent of sunlight that falls on it, becoming one of the hottest surfaces in urban areas. The hot surfaces of pavement (and similarly dark roofs) quickly warm the air over urban areas, leading to the creation of summer urban "heat islands."

This effect can be mitigated by reflecting the sunlight off the pavement before it heats up through use of lighter-colored, reflective pavement materials. These materials reduce the urban heat island effect, reducing the formation of ozone, and reducing evaporative emissions from vehicles that park on and use the pavement. This can be accomplished by using grass paving or reflective surfaces on unshaded parking lots, driveways, and fire lanes to reduce standard paving by 20 percent. Cooler temperatures also result in fewer evaporative emissions from parked vehicles and, thus, reduced ozone generation in the airshed. In addition, reflective surfaces, *e.g.*, concrete, require about 35 percent less lighting than asphalt, thereby reducing electricity demand and associated indirect emissions from electricity generation.[58] This measure is widely used, technically feasible, provides air quality benefits, and is economic. Thus, the Project should be required to reduce standard paving.

There are a large number of options that can be used to comply with this measure, ranging from porous block pavement systems to conventional asphalt pavements using light aggregate to conventional concrete pavements. Some are comparable in cost to conventional pavements and have added benefits such as decreased runoff besides reducing air quality impacts.

Porous Pavement Systems

Porous pavements are prefabricated lattice structures made of concrete or plastic. The lattice blocks are filled with aggregate or soil and grass or ground cover. Once grass has grown, or enough aggregate is placed, the underlying lattice is invisible. These systems typically cost $1.50 to $3.00 per square foot installed, excluding excavation and, thus, are competitive with conventional asphalt pavements. The lattice provides support, preventing compaction. A number of companies market the product, including Invisible Structures, Inc., Aurora, CO; Preston Products, Appleton, WI; Bartron Corp., Tempe, AZ; Landscape Products Co., Union City, CA; Bomanite Corp, Palo Alto, CA; and Hastings Pavement Co. Inc., Freeport, NY.[59] Another product, EcoCreto, an additive-enhanced pervious concrete, provides both reflectivity and allows infiltration of water, thereby reducing stormwater runoff.[60] These systems are useful for pedestrian

[58] Concrete in Focus, Ultra-Thin Whitetopping, The Industry Lines Up Behind an Innovative Technology; http://www.somero.com/pdf/NRCQ_whitetopping.pdf.

[59] See websites as follows: www.invisiblestructures.com, www.grassroad.com, and www.arcat.com.

[60] EcoCreto, Enhanced Pervious Concrete, http://www.ecocreto.com/home.html#.

Letter 4 Cont'd

walkways, driveways, parking lots, overflow parking, fire lanes, or any other less frequently traveled surface, depending on traffic density. They are also used to control stormwater runoff and hillside soil erosion.

Conventional Paving Systems

4-115 Cont'd

The most economical way to lighten pavement is to place the aggregate, which is typically lighter in color, near the surface. This measure is widely recommended in the literature.[61] This paving system is known as "chip seal." An asphalt emulsion binder is first sprayed onto the pavement, followed by a layer of aggregate. The aggregate is pressed into the binder, yielding a surface whose reflectivity is dominated by the aggregate. Whiter aggregate can be used to achieve high reflectivity, depending on local availability. This typically costs $0.09 to $0.14 per square foot ("sqft") installed, applied over a standard asphalt pavement base which typically costs $1.00 to $1.50 per sqft.

There are a number of other standard paving techniques that can be modified to lighten the pavement by using lighter aggregates or adding light pigments or coatings to the top inch or two of the pavement mixture, but most are more costly. These include asphalt emulsion seal coats ($0.06-$0.10/ sqft), asphalt pavement ($1.00-$1.50/sqft), asphalt slurry seals ($0.12-$0.14/sqft), and asphalt surface coatings ($0.25-$0.75/ sqft).[62] Alternatively, some paving systems are naturally light, including Portland cement concrete paving ($2.00 - $6.00/ sqft), resin modified emulsion pavement (which is clear and thus retains the color of the aggregate) and white-topping ($1.50-$2.50/sqft), a technique of covering asphalt pavement with a layer of concrete. All costs are installed, excluding surface preparation.[63]

IV.B Renewable Energy

4-116

The use of renewable energy could substantially contribute to reducing the Project's emissions of greenhouse gas emissions as well as criteria pollutant emissions. The following mitigation measures are feasible for the Project to address the use of renewable energy:

- Participate in the California Energy Commission New Solar Homes Partnership and include onsite solar photovoltaic systems in at least 50 percent of the residential units. (*See* Comment IV.B.1.)

[61] M. Pomerantz, H. Akbari, P. Berdahl, S.J. Konopacki, and H. Taha, Reflective Surfaces for Cooler Buildings and Cities, Philosophical Magazine B, v. 79, no. 9, 1999, pp. 1457-1476; A.H. Rosenfeld, H. Akbari, J.J. Romm, and M. Pomerantz, Cool Communities: Strategies for Heat Island Mitigation and Smog Reduction, Energy and Buildings, v. 28, 1998, pp. 51-62.

[62] Some vendors include AsphaColor, Sparks, NV (800-258-7679); StreetPrint, Fair Oaks, CA (916-966-7875; and CPM Inc, Sacramento, CA (916-381-8033).

[63] See more detailed discussion at www.energy.ca.gov/coolcommunity/strategy/coolpave.html.

Letter 4
Cont'd

— Include onsite solar generation of electricity on retail/commercial building roofs and in parking lots (solar carports).

— For residences, use solar hot water systems with booster heating that is either full-condensing natural gas (or propane) or tankless electric (or electric heat pump) water heating technology; locate water heater and all hot water fixtures in close proximity; follow structured plumbing guidelines to lay out hot water distribution piping.[64] Educate consumers about existing incentives.

— Use energy-efficient and automated controls for air conditioning.

IV.B.1 Roof Photovoltaic Energy Systems

Photovoltaic energy systems generate electricity using solar panels and are becoming increasingly popular and cost-effective for both residential and commercial applications. These systems reduce air pollution by reducing the demand for electricity from the grid, which is produced largely from fossil fuels.

4-116
Cont'd

A wide variety of photovoltaic systems are available in today's markets. Most of them can be grouped into two main categories — facade systems and roofing systems. Facade systems include curtain wall products, spandrel panels, and glazings. Roofing systems include tiles, shingles, standing seam products, and skylights. However, for a new project that has not been designed, building-integrated photovoltaic ("BIPV") electric power systems, which are incorporated directly into the building shell design, are more cost effective and efficient because they can be designed to replace other standard building elements, such as spandrel panels. This technology has been demonstrated to be technically feasible for many years and has been used extensively in Europe for many years.

Photovoltaic systems require negligible maintenance. In commercial applications, they are commonly designed to provide 25 percent to 35 percent of the peak power demand. In residential applications, they can be designed to provide 100 percent of the electricity demand year-round, and can be tied into the utility grid to turn the residence into a net exporter in times of lower demand. For example, a 5-kW solar photovoltaic system reliably powers a 2,000-square foot home generating 740 kWh per month.[65]

On smaller buildings, where photovoltaic panels are not feasible, photovoltaic shingles or cells and photovoltaic glazing can be incorporated into the building envelope. Examples include the Thoreau Center for Sustainability in the Presidio National Park, San Francisco; the Capitol Mall Centennial Plan in Phoenix, AZ, which

[64] Got Hot Water? Guidelines for Specifying Structured Plumbing Systems, January 2007; http://www.gothotwater.com/D%27MAND/Guidelines%20for%20Structured%20Plumbing%20Systems%202007-01-05.pdf.

[65] MC Solar Engineering, Residential, http://www.mcsolar.com/residential/residential_pv.htm.

Letter 4 Cont'd

4-116 Cont'd

features parking structures with photovoltaic canopies; the California State University parking lot in Sacramento; the Sacramento Dan McAuliffe Memorial Ballpark; and the Cal Expo Solarport in Sacramento, CA, the world's largest parking lot solar electric shade structure.

IV.C Building Design Certification

Several building design certification programs are available as standards for environmentally sustainable building design and construction. These include, for example, the Leadership in Energy and Environmental Design ("LEED") Green Building Rating System, developed by the U.S. Green Building Council ("USBGC"), and the "Build It Green" system.[66]

Since its inception in 1998, LEED has grown to encompass projects in all 50 U.S. states and 41 countries.[67] LEED standards include the above discussed mitigation measures in addition to a variety of other measures that improve the sustainability of a project. The USGBC provides assistance in incorporating LEED principles and guidance for certification to developers through its Core and Shell pilot program, which would also be available to the developer of the Project.

4-117

Many commercial projects have incorporated some or all recommended LEED measures. Recently, Archon Group L.P.'s 405,000-square-foot Fairlane Green Phase I project in Allen Park, MI, became the first multi-tenant retail project in the United States to receive Gold Level LEED certification. Some of the sustainable and environmental features of Fairlane Green include:

- A 43-acre park and 3.5 miles of trails around the site.
- Site irrigation from storm water retention ponds rather than municipal water supplies.
- Bio-swales and wetland-type detention ponds to manage storm water runoff and create natural habitat for birds and other wildlife.
- Green screens, hedgerows and prairie-style landscaping to green the site and provide wildlife habitat.
- Reduced energy consumption through white reflective roofing and high-efficiency heating and cooling equipment.

Overall, approximately two-thirds of the 243-acre site will be green – not covered by parking, roads or rooftops. This is 60% less dense than average retail developments based on square feet per acre. (The International Council of Shopping Centers estimates

[66] *See* Build it Green, www.builditgreen.org/greenpointrated.

[67] Green Building Council, Green Building Facts, October 2007; https://www.usgbc.org/ShowFile.aspx?DocumentID=2349.

Letter 4 Cont'd

typical retail yields at 10,000 square feet per acre, while Fairlane Green is approximately 4,000 square feet per acre. The Project is typical with about 10,000 square feet per acre.) Going beyond the core and shell development, tenants of Fairlane Green are encouraged to pursue sustainability within their buildings. Target, for example, has partnered with Ford to contribute to this environmentally sound development. In addition to sustainable elements found at all Target stores, such as white roof membranes and high-efficiency heating and cooling systems, this store will include several innovative sustainable features. More than 250 skylights will save energy by allowing light fixtures to be turned off when conditions allow natural daylight to illuminate the sales floor, and a cistern on the roof will recycle rainwater.[68] All of these features could also be incorporated into the Project, especially given the fact that Target will be a major tenant.

In 2005, the Abercorn Common shopping center became the first all-retail LEED-certified in Savannah, GA. The sustainable features incorporated into the 16,620- square foot center included:

4-117 Cont'd

- Numerous transportation alternatives including preferred parking for hybrid vehicles and bike racks and showers for employee use;
- 100 percent of irrigation provided by rainwater harvested at Abercorn Common, saving 5.5 million gallons of water annually;
- A vegetated "green" roof covering 9,000 square feet of roof space, providing insulation and storm water management;
- The green roof, tight building envelope, solar hot water heating and high efficiency HVAC reduce energy consumption over 25 percent;
- Shops core energy use operating on 100 percent green power;
- A solar panel on the roof provides free hot water heating to tenants;
- Use of low-ROG paints, sealants and adhesives throughout;
- A 100 percent white concrete parking lot, which reflects heat and reduces the heat island effect;
- The green roof and an infiltration ditch provide an opportunity for 100 percent of the stormwater to infiltrate on-site;
- Selection of materials that have high recycled material content and are manufactured within a 500 mile radius of the project site;
- Use of 100 percent sustainably harvested wood as certified by the Forest Stewardship Council;
- Recycling of over 80 percent of the construction and demolition waste, preventing over 1,300 tons of waste from reaching the landfill;

[68] Ford Motor Land Development, Ford Announces New Green Retail Development in Allen Park; http://www.fordlanddevelopment.com/fairlane/assets/news/release_07_29_fairlane_green.pdf.

Letter 4 Cont'd

- Installation of 1-gallon per flush toilets and waterless urinals, reducing water use by over 40 percent;
- Installation of a high-albedo white thermoplastic polyolefin roof membrane;
- Installation of high-efficiency HVAC with hot-gas reheat;
- Installation of formaldehyde-free insulation; and
- Use of recycled-content gypsum board.[69]

Another project planning to obtain LEED certification is the Destiny USA regional mall in Syracuse, NY, which will include a mix of shopping, entertainment, dining and hospitality choices.[70] On September 25, 2006, the U.S. EPA and Destiny USA signed a Memorandum of Understanding ("MoU"), committing the developer to use environmentally sound practices in constructing and running its proposed project. The agreement touches on design, construction and operational principles ensuring the planned complex meets the highest environmental standards. In the MoU, Destiny USA commits to:

4-117 Cont'd

- Using green building design, construction, and operation principles to obtain the highest levels of certification from the USGBC's LEED program;
- Retrofitting more than 100 construction vehicles with diesel particulate filters and using clean fuel, which will reduce emissions by nearly 85 percent;
- Implementing techniques to reduce idling of vehicles during construction;
- Becoming partners in the U.S. EPA's EnergyStar and WaterSense programs, which require the use of energy- and water-efficient appliances;
- Using over 3,000 tons of coal ash in place of using newly-manufactured Portland Cement, which will reduce greenhouse gas emissions by over 3,000 tons;
- Developing a comprehensive set of tools to manage environmental, health and safety matters, also known as an environmental management system ("EMS);
- Taking part in the U.S. EPA's Resource Conservation Challenge, a voluntary program that promotes the reduction, reuse and recycling of solid waste, including electronics;
- Increasing the number of hybrid and biodiesel vehicles in its fleet;

---

[69] Shops Six Hundred at Abercorn Common: http://www.abercorncommon.com/images/stories/AbercornCommonShops600CaseStudy.pdf; and eco-structure, By Following Core Values, a Developer Makes the Impossible Possible, The Magic of Abercorn Common, May/June 2006: http://www.abercorncommon.com/images/stories/EcoStructureTheMagicOfAbercornCommon.pdf.

[70] http://www.destinyusa.com/.

Letter 4 Cont'd

4-117 Cont'd

— Implementing a commuter benefits program that qualifies for the U.S. EPA's National Standard of Excellence; and

— Promoting the U.S. EPA's SmartWay Transport Partnership to its carriers, shippers and tenants to reduce diesel emissions and conserve energy.[71]

All of these requirements could also be incorporated into the Project's commercial component to reduce its significant impacts on air quality and contribution to global climate change.

V. The Draft EIR Fails to Adequately Study and Mitigate Impacts to Biological Resources

4-118

The Project site, *i.e.* the Emerson property, is an approximately 140-acre farmed and grazed field bordered by the Contra Costa Canal to the north, East Cypress Road to the South, and the proposed Gilbert Property subdivision to the East. The Draft EIR's project description in the biological resources section erroneously states that "the Dutch Slough marks the site's western boundary..."[72] This statement is incorrect. The Dutch Slough does not border the Project site. To the west, the Project site is bounded by the Cypress Grove subdivision, as shown in Figure 2 below.[73]

[71] U.S. Environmental Protection Agency, Region 2: Newsroom, EPA and Destiny USA Announce "Memorandum of Understanding," September 25, 2006; http://yosemite.epa.gov/opa/admpress.nsf/4d84d5d9a719de8c85257018005467c2/51dbfdcc14dce9db852571f40059eb9a!OpenDocument.

[72] Emerson Draft EIR, p. 4.7-1.

[73] Emerson Draft EIR, p. 2-1 and Figure 3-2, p. 3-8.

Letter 4 Cont'd

4-118 Cont'd

Figure 2: Project location map

From: Draft EIR, Figure 3-2

The Project site is located south of the Dutch Slough Tidal Marsh Restoration Project. The Dutch Slough Tidal Marsh Restoration Project is located in the historic delta of Marsh Creek, which drains approximately 100 acres on the east side of Mt. Diablo and enters the Sacramento-San Joaquin Delta on the northwest corner of the Dutch Slough site.[74] As shown in Figure 3, the Dutch Slough Tidal Marsh Restoration Project consists of the 438-acre Emerson Parcel, the 292-acre Gilbert Parcel, and the 436-acre Burroughs Parcel. The Project site, aka the Emerson Property, is located south of the Dutch Slough Tidal Marsh Restoration Project, bordered by the Contra Costa Canal.

[74] Natural Heritage Institute, Dutch Slough Tidal Marsh Restoration Project, Preliminary Opportunities and Constraints Report, February 20, 2004.

Letter 4 Cont'd

Figure 3: Dutch Slough Tidal Marsh Restoration Project site map

Adapted from: Natural Heritage Institute, Dutch Slough Tidal Marsh Restoration Project, Preliminary Opportunities and Constraints Report, February 20, 2004

4-119

In addition to Marsh Creek, the Dutch Slough Tidal Marsh Restoration Project site is dissected by two dead end sloughs, Emerson Slough and Little Dutch Slough. The Dutch Slough Tidal Marsh provides habitat for numerous endangered species. Valley freshwater marsh vegetation is also found in the northeastern corner of the Project site in the portion of Emerson Slough where the single stormwater outfall is located.[75] The Project site also features sand dunes that provide habitat for special status sand mound species.

Development in Oakley has occurred at a startling rate. The Project site is especially sensitive due to its location vis-à-vis California's delta. According to a blue ribbon panel commissioned by Governor Schwarzenegger, the Delta is in an ecological tailspin.[76] Invasive species, water pumping facilities, urban growth, and urban and agricultural pollution are degrading water quality and threatening multiple fish species with extinction. Urban development is reducing wildlife habitat today and foreclosing

[75] Emerson Draft EIR, p. 4.7-5.

[76] Final Delta Vision Strategic Plan, Blue Ribbon Task Force, October, 2008.

Letter 4 Cont'd

4-119 Cont'd

future opportunities to improve the ecosystem – and Delta water conveyance. The threat of catastrophic failure from earthquake, flood, sea level rise, and land subsidence is painfully real and growing. The Draft EIR failed to adequately study the impacts from urban runoff and development on this impaired delta ecosystem. The Draft EIR largely relies on the East Contra Costa County Habitat Conservation Plan ("HCP") as its only method of ensuring that Project impacts to special status species and ecosystems are mitigated.

4-120

The City of Oakley approved the HCP and authorized execution of the Implementation Agreement on January 22, 2007.[77] The Draft EIR acknowledges that the Project site is within the HCP inventory area and will pay development fees pursuant to the HCP and a separate East Cypress Habitat Conservation Plan Memorandum of Agreement. Pursuant to the HCP, the City of Oakley holds incidental take permits for 28 species, including a number of species on the Project site. However, the HCP does not cover special status aquatic species such as the endangered Delta smelt, nor does it cover special-status sand mound species. Thus, the Draft EIR failed to adequately study or mitigate the potentially significant impacts to special status aquatic species and sand mound species.

4-121

Stormwater releases from the Project activities could result in a potentially significant impact to aquatic species in the slough environment. The Draft EIR states that stormwater will be pretreated in a basin before entering Emerson Slough.[78] However, the Draft EIR's biological assessment provides no discussion of the constituents in the stormwater outfall and how those constituents may impair the habitat quality or imperil the lives of sensitive aquatic species in the slough. The Draft EIR notes that "Valley freshwater marsh and aquatic habitats are some of the most productive habitats for wildlife because they offer water, food, and cover for a variety of species."[79]

4-122

The Draft EIR states that the U.S. Fish and Wildlife Service ("USFWS") was contacted concerning the potential for special-status species in Emerson Slough including the Delta smelt. The Draft EIR concludes, without any evidence or analysis, that the Delta smelt would not be impacted by this project.[80] The Draft EIR improperly relies upon an environmental impact report for the Cypress Grove project that is now outdated (the study was finalized six years ago) and was not specific to the Emerson Property project:

> "An Essential Fish Habitat Assessment for the adjacent Cypress Grove development, which evaluated the effects of four outfalls into Emerson Slough,

[77] Emerson Draft EIR, p. 4.7-57.

[78] Emerson Draft EIR, p. 4.7-5.

[79] Emerson Draft EIR, p. 4.7-5.

[80] Emerson Draft EIR, p. 4.7-37.

Letter 4 Cont'd

concluded that adverse effects to protected fish species and their habitats would not occur because of design features for water quality treatment and flood attenuation (NOAA Fisheries 2003, Sycamore et al. 2003)."

4-122 Cont'd

This study does not provide a current analysis of the conditions of the Emerson Property Project site and cannot be relied upon as evidence that there will be no Project-specific significant biological impacts. The Draft EIR must survey and properly analyze the impacts posed by this project on the Delta smelt and other special status aquatic species in the Emerson Slough.

4-123

The Draft EIR also fails to adequately survey, analyze or mitigate for impacts to special-status dune and sand mound insects. Sand dunes can support a distinct vegetative community characterized by plant species that favor growth in sandy soils. The Draft EIR provides no current or Project-specific analysis of the potential impacts to these dune species. The Draft EIR again improperly relies on outdated studies that were done for a wholly different project, the Cypress Grove development, rather than surveying and mitigating the impacts specific to the Emerson Project. The Draft EIR then concludes that no mitigation is required to lessen impacts to dune and sand mound species. The Draft EIR must be revised and recirculated to analyze and mitigate significant impacts to special status dune and sand mound species.

4-124

Further, the proximity of the Project to regionally significant wetlands raises the issue of adverse impacts of off-leash dogs or outdoor cats on local wildlife, particularly birds and small mammals. To address this issue, many projects located in similar locations therefore incorporate mitigation measures geared to prevent or reduce these impacts. Frequently, the Covenants, Conditions, and Restrictions ("CCRs") of residential developments stipulate that outdoors cats are prohibited and that tenants are required to keep their dogs on a leash at all times unless kept in an enclosed area.[81] Thus, the Draft EIR should be revised to require that the developer of the residential portion of the Project stipulate similar prohibitions in its CCRs to minimize the Project's potential impacts on local wildlife.

VI. Conclusion

4-125

Based on the discussion above, I recommend that the City revise the Draft EIR to include a quantitative air quality impact assessment for Project construction, including a health risk assessment for diesel exhaust emissions from construction equipment. The revised Draft EIR should require additional mitigation measures to reduce fugitive dust and construction equipment exhaust during Project construction. In addition, the Draft EIR's estimates of operational emissions should be updated based on the Project's proposed land uses (including the gas station, drive-through venue, and discount store).

[81] *See*, for example, Lone Star Ranch, Master Declaration of Covenants, Conditions, Restrictions and Easements, Article X, Restrictions on Subdivision Lots, Section 8(a), August 9, 2005; http://lonestarhoa.com/Documents/Recorded%20CCRs.pdf, accessed February 1, 2009.

Letter 4 Cont'd

4-125 Cont'd To reduce the Project's significant impacts on air quality, the City should require all feasible mitigation. Finally, the Draft EIR's assessment of impacts on global climate change should be revised to require all feasible measures to reduce global climate change. All mitigation measures should be enforceable and worded unambiguously.

4-126 Further, the Draft EIR's biological resources chapter should be revised to address potential impacts to aquatic and special status dune and sand mound species.

Regards,

Dr. Petra Pless

Enclosures