

CONTRA COSTA
2020 JUN -5 PM 3:45
APPLICATION & PERMIT CENTER

June 6, 2020

VIA HAND DELIVERY

Chair Candace Andersen
Contra Costa County Board of Supervisors
30 Muir Road
Martinez, CA 94553

Re: *Appeal of all Resolutions Adopted by the Contra Costa Planning Commission on May 27, 2020 PC Meeting, in connection with Agenda Nos. 2a, 3a, 4a – The Hanover Company (Applicant) - County File #GP18-0002GP18-0002, RZ18-3245, MS18-0010, DP18-3031 for the property commonly known as 112 Roble Road, 3010, 3018, 3050, and 3070 Del Hombre Lane, unincorporated Walnut Creek area of Contra Costa County (APNs: 148-170-037, 148-170-001, 148-170-022, 148-170-041, 148-170-042) General Plan Amendment re Multiple-Family Residential-Very High Special; Rezone to rezoning of the property from Single-Family Residential (R-15) and Planned Unit District (P-1) to a new Planned Unit District (P-1) and related Variance ; Minor Subdivision; and Development, Certification of FEIR (including Statement of Overriding Consideration; And All Related Findings, Recommendations, and Determinations in connection with the above (the "Appeal")*

Dear Chair Andersen and Fellow Supervisors:

Contra Costa Citizens In Favor of Reasonable Growth ("Citizens") is a group that was recently formed to oppose the above-referenced project (the "Project"). Citizens submits this Appeal. Citizens members are a diverse group of County residents, but mainly include individuals who live near the Project site.

As voted on by the Planning Commission, the Project consists of a wish list of completely discretionary entitlements. Specifically, the entitlements being sought for the Project include not only an amendment to the County's General Plan, but also (i) a rezone, (ii) two variances and an exception with respect to drainage, set back and minimum lot size requirements, and (iii) a deviation from the County's affordability standards.

While Citizens does not object to a housing development on the Project site, it does object to the Project as currently envisioned. As evident from the number of discretionary entitlements being sought for this Project, the Project's mass, density

and unit count simply do not fit the confines of the land on which it is sought to be constructed or work well with the surrounding uses and roadway infrastructure.

As set forth in detail below, all of the necessary entitlements for the Project cannot be legally granted, the FEIR should not have been certified by the Planning Commission, and you are otherwise fully within your powers as a Supervisor to vote "no" on this Project, particularly if the Applicant refuses or is otherwise unwilling to make significant changes thereto.

No Findings Can be Made for a Variance to Allow a Rezone to P-1.

Among the other technical defects of the Project is the requested variance from five (5) acre minimum for the P-1 land use designation for residential development under Contra Costa County ("CC") Ordinance Section 84-66.602[1]. In order to obtain a variance, under CC Ordinance Section 26.2.2006, each of the following findings must be made:

"1. That any variance authorized shall not constitute a grant of special privilege inconsistent with the limitations ***on other properties in the vicinity and their respective land use district in which the subject property is located.***

2. That because of special circumstances applicable to the subject property because of its size, shape, topography, location or surrounding area, the strict application of the respective zoning regulations is found to deprive the subject property of rights enjoyed by other properties ***in the vicinity and within the identical land use district.***

3. That ***any variance authorized shall substantially meet the intent and purpose of the respective land use district in which the subject property is located.*** Failure to so find shall result in a denial."

In this case, none of the requisite findings can be made. With respect to each finding, the Applicant is not claiming that it needs a variance to be put in the same position as other parcels within the vicinity of the Project site with the same land use designation as specified by the applicable ordinance. Rather, the Applicant is seeking a variance to place the Project site within a land use designation for which it otherwise does not qualify without the alleged variance. Further, the subject size of the Project site, 2.4 acres, is not remotely close to the required minimum lot or parcel size of 5 acres for the P-1 zone. As explained by the California Supreme Court in *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 522, in ordering the County to vacate a variance permitting a rezone similar to the Applicant's current request, "by granting variances for tracts of this size, a variance board begins to radically alter the nature of the entire zone. Such change is a proper subject for legislation, not piecemeal administrative adjudication." Accordingly, as in *Topanga*, the variance request is not proper.

As to the second necessary finding, even if the above-referenced defect in the requested variance did not exist, there is and was no evidence presented to the Planning Commission that there are any properties situated outside of the Project site, but within the vicinity thereof, enjoying the benefits of the P-1 zone at less than 5 acres. References to parcels located in Tice Valley or Pacheco are not references to other properties in the vicinity (as the term is plainly understood) of the Project site. The reference to the P-1 zoning for a portion of the Project Site is misplaced and legally irrelevant. Land within the Project site is not benefited or held by another landowner in the *vicinity* of the Project site as referenced within the above cited ordinance.

Accordingly, the Planning Commission erred in granting the subject variance. The Board should not uphold the Planning Commissions legally improper grant of a variance upon which this entire house of cards Project is built.

The Project is Inconsistent with the General Plan

Without revisions to reduce density and to take into account the dead-end nature of Del Hombre Lane and mitigate the traffic conflicts identified in the FEIR, the Project will conflict with numerous General Plan policies, such as GP Policy 3-8, as the existing roadway infrastructure is not designed to support the level of traffic the Project will generate in combination with the existing residential uses, and none of the proposed roadway improvements resolve the problem; the Project will create conflicts with pedestrian and bike traffic and will not minimize such conflict in violation of GP Policy 5-14; due to the impact of Covid-19 as well as its extreme density, the Project will not serve to reduce greenhouse gas emissions from transportation sources through the provision of transit, bicycle and pedestrian facilities contrary to GP Policy 5-1; and GP 5-18 the design and scheduling of improvements to arterials and collectors shall give priority intermodal safety other factors including capacity, and the Project certainly will not maintain and improve the quality of existing housing stock and residential neighborhoods, particularly those immediately adjacent to the Project, contrary to Goal No. 1 of the Contra Costa County Housing Goal and Policy of the County's Housing Element.

The Project also does not conform to the General Plan's Transportation and Circulation element, which directs the latest and best design standards and complete street solutions (neither of which will be true here) and aims to have a connected network of streets, given, among other things, the narrow (even with the proposed widening) and dead-end features of Del Hombre, the traffic issues identified by the FEIR, and the variance to shorten the width of the main driveway serving the Project. New projects under the above-referenced element are also supposed to allow for alternative routes for access thereto, which certainly are not the case for the Project in question.

It is not in the public's interest with the meaning of Government Code Section 65358(a) or otherwise to amend the General Plan to permit a development with

unmitigated traffic impacts, and which will be primary served by a dead end street (Del Hombre Lane) that was not designed to serve the number of residential units envisioned by the Project and for which the Project conditions require only minor improvements thereto.

It should be kept in mind that almost all of the entitlements being sought by the Application for the Project are completely discretionary in nature (including the General Plan amendment and rezone discussed below), i.e. the Board is under no legal obligation whatsoever to grant of the same.

Rezoning to MS is Not Appropriate.

The Applicant seeks to change the zoning designation for the Project site from Multi-Family Very High (MV) to Multi-Family Very High Special (MS). The primary purposes of this requested change is double the allowable maximum density of the Project from 44.9 units per net acre to 99.9 units per net acre. Such a rezone is not consistent with or will not substantially comply with the County's General Plan for the reasons specified above. Accordingly, the Planning Commission should vote against the rezoning as it is not permitted under CC Ordinance 26.2.1806.

Realizing as much, the Applicant is further seeking yet another discretionary change (i.e. it has no legal right to demand the same) to amend the General Plan to permit the zoning change. The Board should decline to participate in such a wholesale rewrite of the zoning standards for the Project site.

A site visit would show that the Project would be out of place with the immediately surrounding land uses. The townhomes and apartment development off of Honey Trail have nowhere near the density sought by the Applicant for the Project. Similarly, while the staff report issued for the Planning Commission failed to note the same, the apartment development currently served by Roble Road lacks the density sought by the Applicant for the Project.

Accordingly, it is not surprising the FEIR recognizes that the Project will cause significant environment impacts that cannot be mitigated. Additionally, the staff report fails to highlight the following important fact: Del Hombre has a single entrance to other public streets. It dead ends before it reaches Treat or Jones Street. As a result, the proposed main entrance for the Project will be served by a dead-end street. The Project will cause a traffic nightmare, a reality only made worse by the observation from Advanced Planning that the proposed density of the Project is right on the edge of exceeding allowable density under the MS designation.

Del Hombre is already a maxed out road serving far too many residential units. The proposed improvements will not fix this problem or allow Del Hombre to serve the Project because they will not cure the dead end nature of the road. Among other problems, should it be constructed without revisions, the Project will result in

vehicles repeatedly having to drive past the main entrance to access the same, thus blocking and interfering with those trying to enter or leave Honey Trail. The proposed density of the Project will further cause vehicle conflicts with those seeking to use the Iron Horse Trail from either Las Juntas Way or Del Hombre. Such conflicts will already be exacerbated by the new Avalon Bay building that is currently nearing completion and the Habitat for Humanity Project.

The FEIR Cannot Be Lawfully Certified.

The Project EIR is defective in several material respects relating to greenhouse gases and traffic as set forth in detail in the attached letter from the law firm representing Contra Costa Residents for Responsible Development, dated May 27, 2020, which was previously delivered to the Planning Commission and is part of the administrative record for the Project. A copy of this letter and the attachments thereto are enclosed with this Appeal and incorporated herein in full by this reference.

Additionally, the Project EIR or FEIR as referenced in the staff report for the prior Planning Commission meeting for the Project is legally defective since it fails to contain an adequate analysis of the traffic issues presented by the dead end nature of the Del Hombre Lane, which is the only public street that borders the Project. The Project EIR also fails to look at or address in any manner the cumulative impacts of the above in combination with the unmitigated traffic issues that Project will cause at Coggins Drive and Las Juntas Way as specified the Project EIR.

Furthermore, the Project EIR fails to analyze a range of reasonable alternatives to the Project in violation of the California Environmental Quality Act (CEQA). CEQA requires a greater analysis of alternatives to the Project than that provided in the FEIR. Specifically, "an EIR shall describe a range of reasonable alternatives to the project, . . . , which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." (14 CCR §15126.6; see also *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553; *Laurel Heights Improvements Association v. Regents of the University of California* (1988) 47 Cal.3d 376.)

Here, the Project EIR fails to analyze a "range of reasonable alternatives" to the Project. Instead, the sole alternative analyzed (besides the no project option) is essentially the former 42 unit townhome project, which was previously approved, but never constructed. The Project EIR should have looked at alternative project with density level consistent with the current GP designation of MV, which would allow for a State density bonus and a project significantly in excess of 100 units and the 42 unit alternative set forth in the Project EIR, but below that being sought by the Project. Because the Project EIR failed to analyze a reasonable range of alternatives to the Project, it cannot be legally certified, used to support the Project,

and no statement of overriding consideration can be made to allow any such certification.

The Project is also not consistent with CEQA Guidelines Section 15604.3 since no VMT analysis was performed. No law or logic supports that the claim a VMT analysis was not necessary because the "County has not established a threshold with regard to VMT impact significance."

The Project EIR also acknowledges that the Project would create conflicts with vehicles/pedestrians/bicyclists if a left turn pocket along Del Hombree was added as a Project mitigation measure in violation of multiple General Plan Policies, but fails to address in any manner the common sense circulation issues resulting from the primary means of access to the Project being served by a dead end street, the median of which will result in residents and guests of the Project driving down the dead end street and having to make a U-turn or entering into Honey Trail and attempting to turn around therein to return back to the Project site, all of which will create multiple conflicts with such vehicles and other cars, as well as with pedestrians and bicyclists.

Lastly, the Project objectives set forth in the Project EIR is drafted in a far too narrow manner to comply with applicable law, such that no other alternative projects could feasibility meet the same.

In short, the Planning Commission erred in certifying the Project EIR, and such a decision should be overturned by you on this Appeal, and the Project EIR should not be recertified unless and until revised and recirculated to address its current legal defects.

Density Bonus Issues.

Applicant has taken the novel approach that since State law allows in certain instances for relief from certain development standards that it should be allowed to provide less affordable housing that is required under the County's policies. Such an approach defeats the very purpose for which the State law was written and should not be condoned by this Board.

The entire density bonus is also legally improper and should not be granted because of the unmitigated environmental impacts that the Project will cause as specified in the Project EIR. (See Governmental Code §65915(d)(1)(B).)

Other Project Issues.

As indicated above, this is a wholly discretionary Project, the approval or denial of which is solely with the power of the Board. Citizens is not opposed to residential development of the Project site. It is opposed to the extreme density and resulting

features for the proposed for the same, which result in a Project that does not fit its intended location.

A. Parking Issues.

While perhaps more parking is not legally required, one can anticipate that the Project will be under parked for all practical purposes, and the occupants of the Project and their guests will seek to use parking in the adjacent townhome and apartment projects. Similarly, the proposed location of the passenger loading and unloading zone is extremely problematic as it borders Honey Trail, which is the single access point or entrance to the townhomes and apartments to the south of the Project site. If you have not already inspected the Project site, Citizens would request that you do so before voting on the Appeal.

B. Aesthetics.

The architectural features of the Project are at best generic. The lack of appropriate setbacks and the mass of the Project give it a "wall" or "fortress" appearance with little or no aesthetic appeal.

The lack of any real setbacks will result in the existing tree line and landscaping separating the Project from the existing developments off of Honey Trail being destroyed or reduced to insignificance.

In short, the Project as proposed does not deserve your vote. The area where the Project is located and the people that live there have already been taxed with providing their fair share of developments to meet the County's housing needs. Citizens does not oppose housing on the Project site, provided the Project is a right-sized to fit the neighborhood.

Suggested Project Revisions To Make the Project Feasible and Appropriate for the Neighborhood.

Citizens suggests that Project be redesigned before it receives an affirmative vote to reduce the density consistent with existing zoning (MV not MS) with the number of units around 130 units consistent with the existing zoning with the requested density bonus; the building should be stepped back to reduce the massing and wall like look as currently proposed; the main drive should be 26 feet and not 24 feet; the main entrance of the Project should be moved to Roble Road, which has two way street or through access, as opposed to the dead-end street of Del Hombree, or, alternatively, Del Hombree should be extended so that there is access from Del Hombree to Treat; and significant setbacks should exist along the entire border of the Project site to provide a landscape buffer for the benefit of existing neighborhoods from unwarranted impacts of the Project, and to further protect the existing tree line along Honey Trail.

Chair Candace Anderson
June 6, 2020
Page 8

Requested Course of Action.

Citizens respectively requests that the Board grants its Appeal and vote no on the Project, and decline any recertification of the Project EIR in its current form. The subject discretionary Project should be one that provides true benefits to the community, and works well with the existing neighbors, and not a development that solely addresses the goals of the Applicant.

Citizens reserves the right to amend and supplement this Appeal prior to the hearing thereof.

Very truly yours,

Contra Costa Citizens In Favor of Reasonable Growth

By: 

Amy D. Zeller
1293 Honey Trail
Walnut Creek, CA 94597
(925) 949-6952

Encl.

cc: Jennifer Cruz (via email w/o encl.)

EXHIBIT TO APPEAL

DANIEL L. CARDOZO
CHRISTINA M. CARO
THOMAS A. ENSLOW
ANDREW J. GRAF
TANYA A. GULESSERIAN
KENDRA D. HARTMANN*
KYLE C. JONES
RACHAEL E. KOSS
NIRIT LOTAN
AARON M. MESSING
WILLIAM C. MUMBY

MARC D. JOSEPH
Of Counsel

**Admitted in Colorado*

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
amessing@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201
FAX: (916) 444-6209

May 27, 2020

Via U.S. Mail

Contra Costa County Planning Commission
Contra Costa County
30 Muir Road
Martinez, CA 94553

Chair

Rand Swenson

Vice Chair

Kevin Van Buskirk

Commissioners

Jeffery Wright
Donna Allen
Bhupen Amin
Bob Mankin
Ross Hillesheim

Via Email

Jennifer Cruz, Senior Planner, Jennifer.Cruz@dcd.cccounty.us
Contra Costa Planning Commission, planninghearing@dcd.cccounty.us

Re: **Comments on the Del Hombre Apartment Project for the May 27,
2020 Contra Costa County Planning Commission
(Agenda Items #2-5)**

Dear Honorable Planning Commission Members; Ms. Cruz

We are writing on behalf of Contra Costa Residents for Responsible Development regarding the County's Final Environmental Impact Report ("FEIR") and responses to comments prepared for the Del Hombre Apartment Project ("Project") proposed by the Hanover Company in Contra Costa County ("County").

4714-009acp

The Project involves developing a 2.4-acre site as a 284-unit apartment building. The Project is located at 112 Roble Road, approximately 0.12 miles from the Pleasant Hill BART station. The Project requires the demolition of two existing residential structures and the removal of 161 trees.

Contra Costa Residents for Responsible Development (“Contra Costa Residents”) is an unincorporated association of individuals and labor unions, including member and Pleasant Hill resident Gerald Phillips, that may be adversely affected by the potential environmental impacts of the Project. Individual members of Contra Costa Residents and the affiliated unions live, work, recreate and raise their families in Contra Costa County. These members would be directly affected by the Project’s environmental and health and safety impacts. Members of Contra Costa Residents may also work on the Project itself. Accordingly, these individuals will be first in line to be exposed to any health and safety hazards created by the Project.

We reviewed the County’s FEIR and response to comments with the assistance of air quality and greenhouse gas expert, Dr. James Clark. Dr. Clark’s comments and curriculum vitae are attached as Exhibit A.¹ Exhibit A is fully incorporated herein and submitted to the County herewith. Exhibits and references to the expert comments are included by Dropbox.

We conclude that the Project’s EIR is in violation of CEQA and must be revised. As explained below, there remain outstanding issues related to the FEIR’s greenhouse gas (“GHG”), air quality, and traffic analysis that have not been addressed by the County. The EIR cannot be certified by the County until these issues have been resolved in a revised EIR.

I. GREENHOUSE GASES

Our review of the EIR and County’s response to comments found that the EIR’s GHG analysis contains inadequate analysis and mitigation in the following areas: 1) The EIR does not support its reliance on the 2.6 MT CO₂e/service population/year threshold with evidence, 2) the impact of vegetation removal on carbon sequestration as a result of Project construction was not accounted for in the EIR. When the impact is properly accounted for, it increases the Project’s GHG

¹ Exhibit A: Letter from James Clark to Aaron Messing re: Comment Letter on Final Environmental Impact Report (FEIR) for Del Hombro Apartments Project, Contra Costa County, California State Clearing House Number 2018102067 (May 23, 2020) (hereinafter “Clark letter”) 4714-009acp

emissions above the EIR's 2030 threshold, 3) the EIR significantly underestimates water consumption which will increase the Project's GHG impact and relies on a water consumption mitigation measure that is not adequately incorporated or guaranteed by the EIR, 4) the EIR's mobile source and Project waste emissions are unsupported in the record, and 5) the EIR's calculation of service population to calculate GHG emissions/person is not supported by evidence.

A. The EIR uses incorrect and unsupported GHG thresholds to support its GHG analysis

The EIR presents two thresholds for determining whether the Project will result in significant impacts from GHGs: BAAQMD's 2020 GHG significance threshold of 4.6 MTCO₂e/service population and an unadopted, unsupported 2030 GHG significance threshold of 2.6 MTCO₂e/service population. Neither threshold is adequate to support a conclusion based on substantial evidence that no significant impact will occur from GHGs as a result of the Project.

In its response to comments, the County "acknowledged that the buildout year (2022) would be beyond the target year (2020)" and argue it included the 2020 threshold "for informational purposes."² But the County did not attempt to establish a threshold for the full buildout year or modify the 2020 threshold in any way to make it applicable to the year 2022.³ Instead, the EIR appears to rest its GHG analysis solely on satisfaction of what the FEIR describes as the "substantial progress threshold for the region." The County admits in the FEIR that this threshold was not formally adopted.⁴ Moreover, the EIR includes no disclosure of the threshold's origin or any substantial evidence to support the County's reliance upon that threshold.

CEQA requires agencies to support their use of thresholds of significance with substantial evidence,⁵ defined as "facts, reasonable assumptions predicated on facts, and expert opinion supported by facts."⁶ For GHG analysis, CEQA specifically requires that "the agency's analysis should consider a timeframe that is appropriate for the project" and that it will "reasonably reflect evolving scientific knowledge and

² Response to comments, p. 2-191

³ See CEQA Guidelines 15064.4(b); *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 223.

⁴ Response to comments, p. 2-191.

⁵ 14 CCR § 15064.7

⁶ PRC § 21082.2

4714-009acp

state regulatory schemes.”⁷ California Courts have acknowledged that “over time, consistency with year 2020 goals will become a less definitive guide, especially for long-term projects that will not begin operations for several years [after 2020].”⁸ Further, “consistency with the State’s long-term climate stabilization objectives . . . will often be appropriate . . . under CEQA,” provided the analysis is *‘tailored . . . specifically to a particular project.’*”⁹

The EIR fails to support the use of its GHG threshold with any evidence, except for the vague statement in the FEIR that this is the “substantial progress threshold.” Without substantial evidence justifying the County’s use of the 2030 threshold, the EIR cannot be approved as satisfying CEQA’s requirement of disclosure and analysis. The EIR must be revised to use a GHG emissions threshold that is tailored to the project and applicable to the Project’s buildout year and, more importantly, to justify the choice of its 2030 GHG threshold with substantial evidence. Failure to do so would render the EIR inadequate under CEQA.

B. The EIR fails to account for the GHG impacts of vegetation removal, underestimating a significant GHG impact

As a result of Project construction, 161 trees will be removed and replaced by only 15 trees on the Project site. These trees are characterized in the DEIR “as a mixed oak woodland, dominated by valley oak...and coast live oak...in conjunction with a variety of other mature, adult tree species.”¹⁰ Trees serve a vital environmental function as a natural vehicle for carbon sequestration. Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide.¹¹ It is a prominent method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change.¹²

According to the DEIR, the Project would result in a reduction of more than 90% of the vegetation currently onsite; however, the DEIR fails to note that this will

⁷ CEQA Guidelines 15064.4(b); *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354; *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 223.

⁸ *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th at 223.

⁹ *Id.* (emphasis added).

¹⁰ Del Hombre Apartment Project DEIR at 2-29.

¹¹ U.S. Geological Survey, *What is Carbon Sequestration?*, available at https://www.usgs.gov/faqs/what-carbon-sequestration?qt-news_science_products=0#qt-news_science_products.

¹² *Id.*

4714-009acp

significantly reduce the potential carbon sequestration at the Project site.¹³ The EIR relies on the California Emissions Estimator Model (CalEEMod), a statewide land use emissions computer model, for its GHG emissions analysis. The CalEEMod includes a default GHG accumulation per acre factor for trees which reflects GHG sequestration of different land uses. For trees the factor is 111 MT CO₂/acre.¹⁴

However, the EIR does not address the increase in GHG emissions from the clearing of trees and the subsequent loss of sequestration at the site. When properly included, Dr. Clark calculated that the resulting increase in GHG emissions would be 263 MT CO₂/yr in 2030, bringing the Project's total 2030 GHG emissions to 2,187 MT CO₂e/yr.¹⁵ Using the EIR's service population of 823 people, the Project's GHG emissions generation will be 2.7 MT CO₂e/service population/year, which exceeds the EIR's stated 2030 GHG emission threshold of 2.6 MT CO₂e/service population/year.

In sum, if the EIR had properly considered increased GHGs resulting from a loss of carbon sequestration, it would have found a significant impact from GHGs. Under CEQA, any significant environmental impact *must* be disclosed and analyzed for potential mitigation.¹⁶ The County has not done so here and must revise its analysis before any Project approval can be made.

C. The Project's GHG emissions from water consumption would be significantly higher than that which was assumed in the DEIR and FEIR

The EIR underestimates the GHG emissions associated with the Project in two primary ways. First, it assumes a 20% reduction in water usage due to "Compliance with the Green Building Code Standards" and the "Water Efficient Land Use Ordinance," but does not identify the measures from those standards that would actually reduce water usage. Second, the Draft EIR and Final EIR contain significantly different and conflicting estimates of water demand, with no explanation for the differences. Even if there will, in fact, be a 20% reduction in water usage, the gallons of water per capita required by the Project would be 1.5 times higher than the usage rates assumed in the FEIR, again resulting in higher GHGs emissions from the Project.

¹³ Clark letter at p. 3.

¹⁴ Clark letter at p. 3.

¹⁵ Clark letter at p. 3.

¹⁶ 14 CCR § 15002(a)(1).
4714-009acp

In its response to comments from Laborers International Union of North America Local Union 324, the FEIR maintains that its water consumption analysis was accurately modeled to include “Apply Water Conservation Strategy” because it incorporated Green Building Code Standards and the Water Efficient Land Use Ordinance.¹⁷ However, the FEIR does not identify how these standards will lead to the reduction of water consumption.

An EIR may not completely defer analysis of potential environmental impacts to an outside regulatory scheme.¹⁸ In *Californians for Alternatives to Toxics v. Dep't of Food & Agric.*, the Court found that the lead agency “repeatedly deferred to [an applicable] regulatory scheme instead of analyzing environmental consequences of pesticide use and therefore fell short of its duty under CEQA to meaningfully consider the issues raised by the proposed project.”¹⁹ Thus, the County must show meaningful consideration of the environmental impacts from Project water consumption and show how particular measures would reduce the impacts, regardless of whether the measures are incorporated into the project or included as mitigation measures.²⁰

Additionally, the DEIR and FEIR have substantially different projected water demands, with the DEIR projecting 55.23 Mgal/yr and the FEIR projecting 30.169 MG/yr.²¹ Dr. Clark notes that “[n]o explanation is offered for the discrepancy in water demand assumed in the CalEEMod model analysis and disclosed in the main text of either the DEIR or the FEIR.”²² This change in calculation has a marked impact on the projected GHG emissions from the Project, and the EIR must disclose the justification behind this reduction before it can be approved under CEQA.

Given the unreliability of the FEIR’s water usage numbers, Dr. Clark considers the California Water Resources Control Board and County’s Water

¹⁷ Contra Costa County, Del Hombre Apartment Project Response to Comments at p. 2-199.

¹⁸ See *Californians for Alternatives to Toxics v. Dep't of Food & Agric.* (2005) 38 Cal. Rptr. 3d 638, 648; *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 881–882 (court rejected assertion that noise level under proposed project would be insignificant simply by virtue of being consistent with general plan standards for zone in question).

¹⁹ *Californians for Alternatives to Toxics v. Dep't of Food & Agric.* (2005) 38 Cal. Rptr. 3d 638, 648.

²⁰ 14 CCR §15002(a)(2); see *Californians for Alternatives to Toxics v. Dep't of Food & Agric.* (2005) 38 Cal. Rptr. 3d 638, 648; *Sierra Club v. Cty. of Fresno* (2018) 6 Cal. 5th 502, 522; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.

²¹ Clark letter at p. 6.

²² Clark letter at p. 6.

District water usage per capita a more accurate depiction of the Project's water usage.²³ The Water District's numbers would increase the FEIR's water usage by 1.5 times, even if the 20% reduction was supported in the FEIR, which it is not.²⁴ Once this increase is incorporated into the FEIR's modeling analysis, it will find a 39 to 58.5 MT CO₂/yr increase in 2020 and a 45 to 67.5 MT CO₂/yr increase in GHG emissions from operation of the Project, further driving up the already significant GHG impact.²⁵

D. Mobile Source and Project waste emissions are unsupported in the record

The EIR fails to disclose support for its modeling analysis for mobile sources and Project waste emissions. First, the EIR's modeling analysis indicates that mobile source GHG emissions from the Project will decrease from 1,644 MT CO₂e/yr in 2022 to 1,305 MT CO₂e/yr in 2030.²⁶ Dr. Clark notes in his letter, "the DEIR and FEIR both fail to disclose the GHG emission factors assumed for mobile sources in 2022 and 2030. Thus, the major source of GHG emissions for the project is unsupported."²⁷

Additionally, the DEIR assumed GHG emissions from processing Project waste would be reduced by 74%, from 66 MT CO₂e/yr to 49 MT CO₂e/yr by complying with AB 341. However, as Dr. Clark explains in his letter, "there is no support for the assumption that a 74% reduction in waste by recycling and composting would reduce GHG emissions by 74%. If the recycling and composting program, for example, relied on composting, which releases methane emissions, a GHG gas, GHG emissions could increase compared to the assumptions in the FEIR."²⁸

"Whether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question."²⁹ This is because CEQA analysis cannot consist of "[a] conclusory discussion of an environmental impact...without reference to substantial

²³ Clark letter at p. 7.

²⁴ Clark letter at p. 7.

²⁵ Clark letter at p. 7.

²⁶ Clark letter at p. 4.

²⁷ Clark letter at p. 4.

²⁸ Clark letter at p. 7.

²⁹ *Sierra Club v. Cty. of Fresno* (2018) 6 Cal. 5th 502, 514.
4714-009acp

evidence.”³⁰ Here, the EIR merely assumes reductions in GHG emissions without supporting those reductions in the record with substantial evidence or implementing specific mitigation measures to ensure those reductions actually take place. This is invalid under CEQA and the County must revise this analysis before certifying the EIR.

E. The EIR assumes a Service Population in its analysis that underestimates GHGs

The EIR assumes 2.88 persons per household to calculate the service population for the project, totaling 818 residents.³¹ However, given that the majority of residential units within the Project will only have one bedroom or less, our expert finds that this number considerably overestimates the Project’s service population.

The U.S. Department of Housing believes that an occupancy policy of 2 people per bedroom, as a general rule, is an appropriate estimation of occupancy.³² Dr. Clark notes that this more tailored recommendation for the service population at the Project increases the EIR’s current GHG numbers to above its stated GHG threshold.³³ Assuming one resident for a studio, two residents for a one bedroom, and four residents for a two bedroom, the more realistic approximation of service population would be 722 residents, as opposed to the FEIR’s 818 residents. In 2030, this would mean that GHG emissions per service population per year would be $1,924/722 = 2.7$ MT CO₂e, exceeding the FEIR’s stated 2.6 MT CO₂e 2030 GHG threshold.³⁴ Thus, when following a more accurate approximation of the Project’s service population, the Project’s GHGs are significant and must be disclosed and mitigated by the EIR.

II. AIR QUALITY

In our comments on the DEIR, we argued that the DEIR’s mitigation measure MM AIR-3 was inadequate to secure primarily Tier IV Interim off-road

³⁰ 14 CCR §15126.4(a)(2); *Sierra Club v. Cty. of Fresno* (2018) 6 Cal. 5th 502, 514.

³¹ DEIR, p. 3.17-16.

³² Department of Housing and Urban Development, Fair Housing Enforcement–Occupancy Standards; Statement of Policy; Notice; Republication (“Keating Memo”), p. 70984 (Dec. 22, 1998), available at https://www.hud.gov/sites/documents/DOC_7780.PDF.

³³ Clark letter at p. 4.

³⁴ Clark letter at p. 4.

emission standard equipment for Project construction.³⁵ We argued that an exception within the mitigation measure essentially negated any requirements stated within the measure.³⁶ In response, the County rewrote the mitigation measure to remove this exception:

During construction activities, all off-road equipment with diesel engines greater than 50 horsepower shall meet either United States Environmental Protection Agency or California Air Resources Board Tier IV Interim off-road emission standards.³⁷

The County also required monitoring for compliance with the above stated requirement:

The construction contractor shall maintain records concerning its efforts to comply with this requirement, including equipment lists. Off-road equipment descriptions and information may include but are not limited to equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, and engine serial number.³⁸

While the rewritten mitigation measure would appear to commit to the use of Tier IV certified equipment, Dr. Clark notes that, based on publicly available records, the likelihood of this mitigation measure being achieved in practice is extremely low. Dr. Clark shows that the Tier IV equipment likely needed by the Project are in short supply in California, as can be seen by Table 2: Percent of Equipment in California DOORS Database by Emission Tier Level in Dr. Clark's letter.³⁹ This includes equipment for demolition (rubber tired dozers and tractors/loaders/backhoes), site preparation (graders, scrapers, rubber tired dozers, and tractors/loaders/backhoes), grading (graders, scrapers, rubber tired dozers, off-highway trucks, and tractors/loaders/backhoes), and paving operations (pavers, rollers, and tractors/loaders/backhoes). There is therefore no reason for the EIR to

³⁵ Contra Costa Residents for Responsible Development, Comments on the Del Hombre Apartment Project Draft Environmental Impact Report (SCH # 2018102067) at p. 12–13 (Nov. 15, 2019) (hereinafter "Residents letter").

³⁶ Residents letter p. 12–13.

³⁷ Response to Comments, p. 2-95.

³⁸ Response to Comments, p. 2-95.

³⁹ Clark letter p. 9–11.

assume that this mitigation measure is feasible in practice without substantial evidence. No such substantial evidence is provided in the EIR.

Without any plan for how the Project intends to achieve this mitigation measure, there is no indication that this measure will provide any mitigation against the potential health risk impacts from construction that the mitigation is intended to reduce.⁴⁰ The Project cannot be approved under CEQA without addressing this deficiency.

III. **TRAFFIC**

In our comments on the DEIR, we presented evidence that traffic queue exceedances were substantial and that the County failed to analyze and mitigate those impacts.⁴¹ The County responded that “vehicle queues often extend to and beyond driveway locations” and that “[e]liminating all instances of vehicle queue spillback at the driveways mentioned would require further roadway widening, which could be contrary to other community goals. Additionally, vehicle queue spillback is usually temporary in nature, and can be managed through signal timing adjustment and other operational strategies.”⁴²

Here, the County in fact acknowledges the impacts outlined in our comments, argues that potential mitigation exists, but fails to provide any specific analysis or identify specific mitigation measures that would address the impacts. At the same time, the County appears above to claim that the impacts may be significant but are ultimately unavoidable. The County cannot hold the stick at both ends. Either it must acknowledge this impact as significant and unavoidable or it must implement in the EIR those “operational strategies” it claims can mitigate those impacts.⁴³

⁴⁰ CEQA §§ 21002, 21081(a); *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available); *Lotus v. Dept of Forestry* (2014) 223 Cal. App. 4th 645, 651–52.

⁴¹ Residents letter p. 18–20.

⁴² Response to Comments, p. 2-98–2-99.

⁴³ CEQA Guidelines § 15096(g)(2) (“The Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment”); CEQA Guidelines § 15093(b) (“The statement of overriding considerations shall be supported by substantial evidence in the record”).

4714-009acp

IV. CONCLUSION

The Del Hombre Apartment Project's EIR violates CEQA and cannot be certified as currently written. The EIR fails to fully analyze significant environmental impacts from greenhouse gases and fails to provide adequate analysis and mitigation for air quality and traffic impacts.

We urge the Commission not to certify the EIR and require staff to prepare a revised analysis that addresses the issues raised in our comments and includes the mitigation necessary to reduce impacts to less than significant.

Thank you for your attention to these comments.

Sincerely,

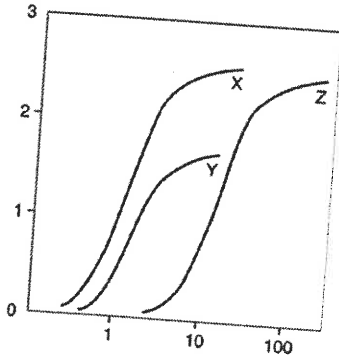
A handwritten signature in black ink, appearing to read 'AM', with a long horizontal line extending to the left.

Aaron M. Messing
Associate

AMM:acp

Attachment

EXHIBIT A



Clark & Associates
Environmental Consulting, Inc.

OFFICE
12405 Venice Blvd
Suite 331
Los Angeles, CA 90066

PHONE
310-907-6165

FAX
310-398-7626

EMAIL
jclark.assoc@gmail.com

May 27, 2020

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

Attn: Mr. Aaron Messing

Subject: Comment Letter on Final Environmental Impact Report (FEIR) for Del Hombre Apartments Project, Contra Costa County, California State Clearing House Number 2018102067

Dear Mr. Messing:

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the May 15, 2020 Contra Costa County Final Environmental Impact Report (FEIR) of the above referenced project.

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

General Comments:

The County's analysis for calculating the impacts from greenhouse gas (GHG) emissions from the construction and operational phases of the project are unsupportable and flawed. The analysis underestimates the long term emissions by failing to account for the impact removing on-site vegetation will have, overestimating the service population, failing to account for adequate mitigation of waste and water GHG emissions, and utilizing unsupported mobile and energy GHG emissions in the calculation of total project emissions. These errors and omissions lead to the false assumption of compliance with the 2030 emission goals of GHGs. In fact, the Project will result in significant GHG emissions.

In addition, although the Proponent is committing to the use of at least Tier 4 interim certified equipment on site, the County's assessment fails to account for the availability of the equipment in the State of California and the impacts that will have on the duration of the construction phase of the project. These flaws are detailed below, making the conclusions of the FEIR suspect.

Specific Comments:

1. The GHG Emissions From the Removal of Mature Vegetation Onsite Are Omitted In The Analysis

The County's analysis fails to adequately account for the impact that removing large numbers of mature trees will have on the GHG emissions for the project. An aerial view of the site shows that the site is currently heavily wooded with a large number of mature trees:



In the FEIR, the County states that the “project site can be characterized as a mixed oak woodland, dominated by valley oak...and coast live oak, ..in conjunction with a variety of other mature, adult tree species.” It is well known that trees store large amounts of GHGs. The FEIR omitted the increase in GHG from removing this existing vegetation. The FEIR goes on to describe the current vegetation of the site and plans for their removal/replacement as follows:

There are a total of 189 trees representing 27 different species across the project site. The foliage present on the project site can be characterized as a mixed oak woodland, dominated by valley oak (*Quercus lobata*) and coast live oak (*Quercus agrifolia*), in conjunction with a variety of other mature, adult tree species.² The project would remove approximately 161 trees (approximately 145 code protected trees and approximately 16 trees that are not code-protected) and impact approximately 27 additional trees. A total of 14 approximately 15 trees would be planted along Honey Trail, Del Hombre Lane, and Roble Road (see Exhibit 2-9a).

Under the County’s current plan, the Project would result in a reduction of 90% plus of the current sequestration of GHG from vegetation currently onsite (15 new trees to replace the 161 trees being removed). Additionally, the FEIR states that 10% of the site will be landscaped areas and 5% planters on the podium. However, new trees, landscaping, and podium planter plants would contribute very little to GHG retention because, for example, oaks do not begin to sequester significant carbon for at least 20 years.

The CalEEMod analysis, relied on in the FEIR, includes a “default GHG accumulation per acre factor for trees of 111 MT CO₂/acre.” Additional GHG would be stored in the understory. The FEIR did not include the increase in GHG emissions from clearing vegetation from the site. The resulting increase in GHG emissions from removing the vegetation are (2.37 acres)(111 MT CO₂/acre) = 263 MT CO₂/yr. Thus, the total year 2030 GHG emissions are 1,924 + 263 = 2,187 MT CO₂e/yr.

Conservatively assuming the FEIR’s service population of 823 people (see Comment 2 below), the Project GHG emission generation is $2,187/823 = 2.7$ MT CO₂e/service population/year. This exceeds the selected FEIR 2030 significance threshold of 2.6 MT CO₂e/service population/year and is thus a significant GHG impact. Assuming the more realistic service population of 722 (see Comment 2 below), the Project GHG emission generation is $2,187/722 = 3.0$ MT CO₂e/service

population/year. This also exceeds the 2030 significance threshold of 2.6 MT CO₂e/service population/year. Thus, regardless of the service population selected, Project GHG emissions in 2030 are significant.

2. The Service Population Used in the GHG Analysis is Overestimated.

The total GHG emissions are divided by the service population to estimate MT CO₂e/yr. The FEIR assumes a service population of 823 people, consisting of 818 residents and 5 employees.¹ The FEIR does not contain any support for the assumed 818 residents. The federal Department of Housing and Urban Development's Fair Housing Act recommends an occupancy limit of 2 people per bedroom.² Note that the DEIR, p. 3.17-16, assumes 2.88 persons per household for unincorporated Contra Costa County, based on the California Department of Finance, which works out to 818 residents.

The FEIR indicates the residential building would consist of 21 studio apartment (566 ft²), 178 one-bedroom apartments (773 ft²), and 85 two-bedroom apartments (1,160 ft²) for a total of 284 units, with an average unit size of 863 ft².³ Assuming 2 people per bedroom, the service populations would be $(21 \times 1 + 178 \times 2 + 85 \times 4) = 717 + 5 = 722$. Assuming the Table 3.7-5 2030 GHG emissions are correct, the GHG emissions per service population per year is $1,924/722 = 2.7 \text{ MT CO}_2\text{e/service population/year}$, which exceeds the 2030 significance threshold of 2.6 MT CO₂e/service population/year and is therefore a significant 2030 GHG impact.

3. The Mobile Source Emission Utilized in the GHG Analysis Are Unsupported

The FEIR increased unmitigated mobile source emissions by 3% in 2020 and 2030,⁴ relative to estimates in the DEIR. Further, the FEIR indicates that revised mobile source GHG emissions

¹ FEIR, pdf 458.

² Department of Housing and Urban Development, Fair Housing Enforcement–Occupancy Standards; Statement of Policy; Notice; Republication (“Keating Memo”), p. 70984 (Dec. 22, 1998), available at https://www.hud.gov/sites/documents/DOC_7780.PDF.

³ FEIR, pdf 75. Square feet from FEIR, pdf 444, Table 2-3.

⁴ FEIR, Table 3.77-5.

decrease from 1,644 MT CO₂e/yr in 2022 to 1,305 MT CO₂e/yr in 2030.⁵ However, the FEIR does not reveal the basis for the increase relative to the DEIR nor the decrease from 2022 to 2030. Thus, the major source of the Project's GHG emissions is unsupported.

GHG emissions from mobile sources depend on the fleet mix, miles travelled, and vehicle emission factors. A review of the CalEEMod output files in DEIR Appendix B and FEIR Appendix C indicate that the fleet mix and miles traveled are disclosed in the CalEEMod modeling appendices and did not change between the DEIR and FEIR. Thus, the only factor that could have changed is the emission factors in MT CO₂e per mile traveled. The DEIR and FEIR both fail to disclose the GHG emission factors assumed for mobile sources in 2022 and 2030. Thus, the major source of GHG emissions for the project is unsupported.

4. **The Water Use Emissions Is Underestimated**

The CalEEMod run in Appendix C to the FEIR assumed unmitigated 2022 and 2030 Project indoor/outdoor water use for mid-rise apartments of 18.5037 Mgal/yr and 11.6654 Mgal/yr for a total 2022 water use of 30.169 Mgal/yr. The CalEEMod run also assumed mitigated indoor and outdoor water use of 14.803 Mgal/yr and 9.33232 Mgal/yr, respectively. The mitigated use corresponds to a 20% reduction in both indoor and outdoor water use in both 2022 and 2030. These water use estimates were converted into emissions in the CalEEMod model. The stated mitigations in the CalEEMod runs assume compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance.

Water Use Mitigation

Neither the FEIR nor the DEIR specify compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance as mitigation measures. Rather, they are just mentioned in Chapter 2 and Section 3, Errata of the FEIR, as design elements. Merely stating compliance with complex codes without specifying the code sections that would be implemented and requiring evidence of compliance with the assumed 20% reduction, e.g., certificate of completion signed by licensed professional, is not valid mitigation measure. The FEIR, in response to comments, asserts that measures to achieve the 20% reduction assumed in the CalEEMod analysis are part of project design. The CalEEMod output states that water mitigation is compliance with the

⁵ Ibid.

Green Building Code Standards and the Water Efficient Land Use Ordinance. Neither the DEIR nor the FEIR identify the specific measures that would be selected from these standards and codes to assure a 20% reduction in water use. No evidence is offered in the FEIR or DEIR that these standards and codes can achieve a 20% reduction at the subject site. Further, the DEIR and FEIR do not include any enforceable conditions to assure that the measures would be implemented and that the apartment building and outdoor uses would consume no more water than assumed in the CalEEMod runs.

Further, the Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881) requires cities, counties, etc. to adopt the landscape water conservation ordinance by January 1, 2010.⁶ The reductions in water use from complying with the Water Efficient Land Use Ordinance are already built into the per capita water use of the Contra Costa Water District because this ordinance is already being implemented by CCWD.⁷ Thus, the FEIR's use of a 20% reduction of water use is double counting. The reduction from compliance is already included in the per capita water use of CCWD.

Water Use Underestimated

The GHG emissions from supplying water are underestimated (see below). Further, the FEIR and DEIR contain conflicting estimates of water demand, with no explanation for the differences. The various estimates are as follows:

- *Mitigated FEIR CalEEMod: 30.169 MG/yr*

The CalEEMod run in Appendix C to the FEIR assumed unmitigated 2022 and 2030 Project indoor/outdoor water use for mid-rise apartments of 18.5037 Mgal/yr and 11.6654 Mgal/yr, for a total 2022 water use of 30.169 Mgal/yr. The CalEEMod analysis also assumed that the mitigated indoor and outdoor water use for the same period of 14.803 Mgal/yr and 9.33232 Mgal/yr, respectively, for a total mitigated water use of 24.135 Mgal/yr. Thus, the FEIR assumed a 20% reduction by compliance with AB 341, which requires recycling and composting. However, the FEIR fails to indicate how this would be achieved. No mitigation is required to assure that this

⁶ See, for example, California Department of Water Resources, The Updated Model Water Efficient Landscape Ordinance; available at: <https://www.contracosta.ca.gov/DocumentCenter/View/34131/CDWR-2009-Model-Water-Efficient-Landscape-Ordinance-PDF>.

⁷ See, e.g., CDWR, Model Efficient Landscape Ordinance; available at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Model-Water-Efficient-Landscape-Ordinance>.

reduction is achieved. Instead, the FEIR asserts compliance without proof of how that would be achieved.

- *DEIR: 55.23 MG/yr*

The main text of DEIR assumes a Project water demand of 55.23 Mgal/yr, or nearly two times more than modeled in the CalEEMod analysis in either the DEIR or FEIR CalEEMod analyses in Appendices C. This estimate was not revised in the FEIR. The main text of the DEIR did not assume any mitigation for this water demand. No explanation is offered for the discrepancy in water demand assumed in the CalEEMod model analysis and disclosed in the main text of the DEIR.

Assuming that the water demand disclosed in the DEIR text is plausible, the GHG emissions from water use would be $55.23/30.169 = 1.83$ times higher than disclosed in the DEIR or FEIR. Thus, mitigated GHG emissions from supplying water to the Project would be $1.83 \times 45 = 82.4$ MT CO₂/yr in 2022 and $1.83 \times 39 = 71.4$ MT CO₂/yr in 2030.

- *Per Capita Water Use*

The 2022 and 2030 mitigated indoor plus outdoor water demand assumed in the CalEEMod analysis in both the DEIR and FEIR and used to estimate GHG emissions ($14.803 + 9.332 = 24.13$ Mgal/yr) corresponds to a per capita demand of $24.13 \text{ Mgal}/(823 \text{ people})(365 \text{ day/yr}) = 80$ gallons of water per day per capita (GPC).

The DEIR text estimated Project water demand assuming 185 GPC. A footnote in the DEIR asserts that “The San Francisco Public Water Resources Division Annual Report 2013–2014 estimates average residential water usage to be 49 gallons per person per day which more closely resembles the high-density residential use of the project. However, as a more conservative estimate, this EIR assumes 185 gallons per person per day to account for the total increase in water demand associated with the project within the County.” In spite of this statement, the GHG analysis in both the DEIR and FEIR is based on an anomalously low estimate of water demand.

Assuming the DEIR text is correct, 2022 and 2030 water use GHG emissions would be $185/80 = 2.3$ times higher, increasing 2022 water use GHG emissions from 39 to 90 MT CO₂/yr and 2030 GHG emissions from 45 to 104 MT CO₂/yr.

According to the California Water Resources Control Board’s water conservation and production reports, last year’s per-capita water use in Contra Costa County was 92 GPC.⁸ This

⁸ California Water Resources Board, *Water Conservation and Production Reports*, available at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html.

number, verified by the County's Water District, is a vastly more reliable indicator of the actual water usage of the Project. Assuming the unidentified but proposed generic water use mitigation in the FEIR achieves its assumed 20% reduction, the actual Project water use under the proposed mitigation would be 73.6 GPC, or $(73.6/49) = 1.5$ times higher than assumed in the FEIR. Thus, 2020 and 2030 water use GHG emissions would be 1.5 times higher, increasing 2020 water use GHG emissions from 39 to 58.5 MT CO₂e/yr and 2030 GHG emissions from 45 to 67.5 MT CO₂e/yr.

- *Total GHG Emission from Water Use*

In summary, regardless of the assumptions used, the increase in GHG emissions from supplying water to the Project is much higher than revealed in the FEIR, ranging from 58.5 to 82 to 147 MT CO₂e/yr in 2020 compared to the FEIR's estimate of 45 MT CO₂e/yr and from 67.5 to 71 to 170 MT CO₂e/yr in 2030 compared to the FEIR's estimate of 39 MT CO₂e/yr in 2030.

5. The Waste Mitigation Measures Assumed in The FEIR Are Unsupported.

The CalEEMod run in Appendix C to the FEIR assumed GHG emissions from processing Project waste would be reduced by 74%, from 66 MT CO₂e/yr⁹ to 49 MT CO₂e/yr¹⁰ by complying with AB 341.¹¹ The responses to comments indicate that compliance with AB 341 is a design element rather than a mitigation measure. However, there is no support for the assumption that a 74% reduction in waste by recycling and composting would reduce GHG emissions by 74%. If the recycling and composting program, for example, relied on composting, which releases methane emissions, a GHG gas, GHG emissions could increase compared to the assumptions in the FEIR. Thus, even assuming compliance with AB 341 as a design element, a mitigation measure requiring measurement and reporting should be included in the FEIR to assure that GHG emissions from compliance with AB 341 would be reduced by 74% to no more than to 49 MT CO₂e/yr.

6. The BAAQMD Significance Threshold of 4.6 MTCO₂e Does Not Apply To This

⁹ FEIR, Appendix C, p. C.1-6, pdf 11.

¹⁰ FEIR, Appendix C, p. C.1-7, pdf 12.

¹¹ FEIR, Appendix C, p. C.1-2, pdf 7.

Project.

The FEIR relies on the BAAQMD's significance threshold of 4.6 MTCO₂e/service population (SP) to evaluate 2022 GHG emissions from the Project. There are two problems with this use: First, the BAAQMD advises agencies not to rely on its GHG thresholds as the District is in the process of updating them.¹² Further, assuming it is still valid, it is valid only until 2020. The Project will not be operational until 2022 and probably will not be fully occupied until several years later.

7. The Revised GHG Emission Levels For The Project Show Non-Compliance With GHG Emission Levels For Project.

The revised GHG emissions, based on the elements detailed above, are summarized in Table

1. This table shows that GHG emissions are significant in both 2022 and 2030.

Table 1: Revised GHG Emissions

Emission Source	2022 Emissions (MT CO ₂ e/yr)	2030 Emissions MT CO ₂ e/yr)
Area	9	9
Energy	615	493
Mobile	1,644	1,305
Waste	49	49
Water	82-147	71-170
Tree Removal	263	263
Amortized Construction Emissions	29	29
Total Project Emissions	2,691-2,756	2,219-2,318
Service Population ¹³	722	722
Project Emissions (MT CO ₂ e/population	3.7-3.8	3.1-3.2
Significance Threshold (MT CO ₂ e/pop/year	2.6	2.6
Significant	Yes	Yes

It is clearly evident from the discussions above that the Project analysis is flawed and must

¹² Letter from BAAQMD to Alicia Parker, City of Oakland, Re: Downtown Oakland Specific Plan – Notice of Preparation of a Draft Environmental Impact Report, February 15, 2019; available at: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa-letters/2019/downtown_oakland_specific_plan_eir_notice_of_preparation_021519-pdf.pdf?la=en

¹³ If the FEIR's service population of 823 is used, the Project emissions would be 3.27-3.35 MT CO₂e/pop/year in 2020 and 2.7-2.8 MT CO₂e/pop/year.

be revised.

8. **Although The Proponent Is Committing To The Use Of At Least Tier 4 Interim Certified Equipment On Site, The County's Assessment Fails To Account For The Availability Of The Equipment In The State Of California And The Impacts That Will Have On The Duration Of The Construction Phase Of The Project.**

MM AIR-3 states "During construction activities, all off-road equipment with diesel engines greater than 50 horsepower shall meet either United States Environmental Protection Agency or California Air Resources Board Tier IV Interim off-road emission standards." Although the County has changed mitigation measure MM AIR 3 to reflect the commitment by the Proponent to only use Tier 4 interim equipment, the impact of availability is not assessed in the FEIR. If certified equipment is not available and the Proponent is taken at their word, then project development would stop until certified equipment is available, no matter what the phase of construction.

Based upon a public records act (PRA) of the California Air Resources Board's (CARB) Diesel Off-Road Online Reporting System (DOORS) it is evident that the availability of Tier 4 interim and Tier 4 final construction equipment is highly dependent on the type of equipment. Using the CALEEMOD analysis supplied in Appendix C to the FEIR, the availability of those specific pieces of construction equipment (highlighted in yellow) across the state are identified in Table 2 below.

Table 2: Percent of Equipment in California DOORS Database by Emission Tier Level

Equipment Type (> 50 hp)	U.S. EPA Emission Tier Level						Percent Total Meeting Contra Costa Requirement MM-3
	T0	T1	T2	T3	T4F	T4I	
Aerial Lifts	1.63%	4.67%	14.86%	4.08%	48.64%	26.12%	74.76%
Boom	0.15%	0.77%	5.22%	1.59%	76.20%	16.06%	92.26%
Bore/Drill Rigs	11.53%	15.42%	16.86%	21.76%	17.72%	14.34%	32.06%
Bucket	8.33%	18.33%	10.00%	6.67%	33.33%	23.33%	56.67%
Concrete Mixer	0.00%	0.00%	0.00%	14.29%	85.71%	0.00%	85.71%
Concrete Pump	1.30%	7.79%	40.26%	1.30%	32.47%	16.88%	49.35%
Crane 35ton or more	5.57%	4.41%	5.37%	18.81%	37.62%	27.45%	65.07%
Crane less than 35ton	20.37%	2.47%	6.79%	12.35%	38.27%	19.75%	58.02%

Equipment Type (> 50 hp)	U.S. EPA Emission Tier Level						Percent Total Meeting Contra Costa Requirement MM-3
	T0	T1	T2	T3	T4F	T4I	
Cranes	27.84%	11.49%	9.13%	26.60%	10.82%	11.80%	22.62%
Crawler Tractors	26.56%	13.31%	13.11%	13.70%	22.39%	10.93%	33.32%
Crushing/Processing Equipment	0.00%	0.78%	2.34%	14.06%	74.22%	8.59%	82.81%
Drill Rig	7.09%	4.14%	8.86%	12.56%	45.79%	17.87%	63.66%
Drill Rig (Mobile)	11.51%	8.71%	11.51%	17.26%	30.95%	14.77%	45.72%
Excavators	5.24%	8.34%	13.95%	7.29%	48.67%	16.50%	65.17%
Forklifts	9.57%	10.57%	13.82%	7.99%	40.45%	17.46%	57.91%
Garbage Refuse	0.00%	0.00%	8.70%	8.70%	43.48%	39.13%	82.61%
Garbage Transfer	0.00%	0.00%	0.00%	33.33%	66.67%	0.00%	66.67%
Graders	29.78%	14.12%	12.89%	15.27%	17.40%	10.52%	27.92%
Hopper Tractor Trailer	0.00%	0.00%	0.00%	0.00%	50.00%	50.00%	100.00%
Mower	2.44%	7.27%	13.58%	1.10%	54.40%	21.22%	75.62%
Nurse Rig Aircraft Supply	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%
Nurse Rig Other	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Off Highway Tractors	3.55%	6.28%	6.01%	8.74%	65.30%	10.11%	75.41%
Off Highway Trucks	1.69%	3.87%	11.14%	5.81%	62.23%	15.25%	77.48%
Off-Highway Tractors	18.25%	17.06%	20.98%	10.02%	17.18%	16.31%	33.49%
Off-Highway Trucks	16.96%	12.96%	17.54%	20.81%	16.13%	13.99%	30.12%
Other Construction Equipment	16.35%	14.20%	17.11%	10.53%	24.03%	17.19%	41.22%
Other General Industrial Equipment	13.18%	16.56%	27.57%	8.61%	13.80%	19.84%	33.65%
Other Material Handling Equipment	10.84%	11.39%	19.25%	15.55%	26.63%	16.26%	42.89%
Other Truck	15.64%	10.34%	5.31%	13.41%	36.87%	11.45%	48.32%
Pavers	12.11%	21.18%	16.99%	14.97%	23.34%	11.41%	34.75%
Paving Equipment	6.49%	12.80%	12.74%	12.44%	38.17%	17.05%	55.22%
Railcars or Track Cars	16.33%	8.16%	0.00%	14.29%	51.02%	10.20%	61.22%
Rollers	14.09%	15.93%	18.30%	6.46%	30.61%	14.59%	45.20%
Rough Terrain Forklifts	3.95%	9.32%	15.89%	8.11%	41.94%	20.80%	62.74%
Rubber Tired Dozers	41.04%	10.02%	9.44%	19.65%	15.22%	4.62%	19.85%
Rubber Tired Loaders	16.74%	12.71%	13.56%	14.94%	29.29%	12.76%	42.05%
Scrapers	28.91%	10.98%	15.47%	30.41%	10.15%	4.04%	14.19%
Skid Steer Loaders	3.70%	10.02%	15.81%	3.20%	54.69%	12.58%	67.27%
Spray Truck	5.56%	4.17%	19.44%	2.78%	34.72%	26.39%	61.11%
Spreader Tractor Trailer	0.00%	14.29%	28.57%	0.00%	42.86%	14.29%	57.14%

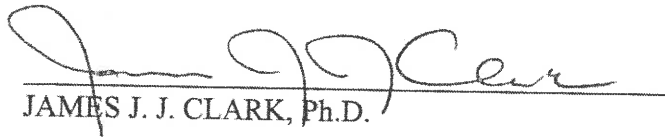
Equipment Type (> 50 hp)	U.S. EPA Emission Tier Level						Percent Total Meeting Contra Costa Requirement MM-3
	T0	T1	T2	T3	T4F	T4I	
Spreader Truck	4.17%	0.00%	4.17%	37.50%	16.67%	25.00%	41.67%
Surfacing Equipment	15.38%	14.25%	10.18%	23.08%	19.23%	17.65%	36.88%
Sweepers/Scrubbers	11.02%	20.84%	16.57%	6.61%	25.75%	19.06%	44.81%
Tank Truck	4.05%	6.76%	8.11%	27.03%	37.84%	16.22%	54.05%
Tanker Truck Trailer	0.00%	18.18%	0.00%	0.00%	63.64%	18.18%	81.82%
Telescopic Handler	1.33%	0.00%	2.67%	0.00%	80.00%	16.00%	96.00%
Tow Tractor	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Tractors/Loaders/Backhoes	13.53%	16.50%	18.73%	8.96%	29.23%	13.05%	42.28%
Trenchers	21.86%	19.57%	20.87%	3.28%	21.86%	12.57%	34.43%
Vacuum Truck	2.21%	18.38%	15.44%	25.00%	13.24%	14.71%	27.94%
Water Truck	21.79%	8.21%	16.43%	16.07%	23.57%	13.57%	37.14%
Workover Rig (Mobile)	5.99%	15.14%	9.78%	17.35%	7.10%	13.56%	20.66%
Yard Goat	4.40%	4.58%	9.41%	18.31%	41.71%	21.33%	63.04%

It is clear from the CARB data that access to Tier 4 interim certified equipment necessary for demolition (rubber tired dozers and tractors/loaders/backhoes), site preparation (graders, scrapers, rubber tired dozers, and tractors/loaders/backhoes), grading (graders, scrapers, rubber tired dozers, off-highway trucks, and tractors/loaders/backhoes), and paving operations (pavers, rollers, and tractors/loaders/backhoes), are in short supply in the State. In particular, Tier 4 interim dozers, scrapers, graders, and pavers make up a small portion of the registered fleet in California. If the Proponent does not acquire the necessary equipment during construction or delay the construction until the equipment is available, the air quality impacts detailed in the FEIR will rendered moot, creating a serious flaw in the overall CEQA analysis of the project.

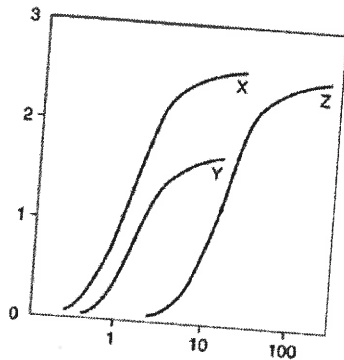
Conclusion

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

Sincerely,



JAMES J. J. CLARK, Ph.D.



Clark & Associates
Environmental Consulting, Inc

OFFICE

12405 Venice Blvd.
Suite 331
Los Angeles, CA 90066

PHONE

310-907-6165

FAX

310-398-7626

EMAIL

jclark.assoc@gmail.com

James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

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

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

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

Professional Experience:

Dr. Clark is a well recognized toxicologist, air modeler, and health scientist. He has 20 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

LITIGATION SUPPORT

Case: James Harold Caygle, et al, v. Drummond Company, Inc. Circuit Court for the Tenth Judicial Circuit, Jefferson County, Alabama. Civil Action. CV-2009

Client: Environmental Litigation Group, Birmingham, Alabama

Dr. Clark performed an air quality assessment of emissions from a coke factory located in Tarrant, Alabama. The assessment reviewed include a comprehensive review of air quality standards, measured concentrations of pollutants from factory, an inspection of the facility and detailed assessment of the impacts on the community. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Rose Roper V. Nissan North America, et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. NC041739

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

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to multiple chemicals, including benzene, who later developed a respiratory distress. A review of the individual's medical and occupational history was performed to prepare an exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to respiratory irritants. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: O'Neil V. Sherwin Williams, et al. United States District Court Central District of California

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

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to petroleum distillates who later developed a bladder cancer. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Summary judgment for defendants.

Case: Moore V., Shell Oil Company, et al. Superior Court of the State Of California for the County Of Los Angeles

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

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to chemicals while benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Raymond Saltonstall V. Fuller O'Brien, KILZ, and Zinsser, et al. United States District Court Central District of California

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

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Richard Boyer and Elizabeth Boyer, husband and wife, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-7G.

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: JoAnne R. Cook, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-9R

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of an individual exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Patrick Allen And Susan Allen, husband and wife, and Andrew Allen, a minor, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-W

Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Michael Fahey, Susan Fahey V. Atlantic Richfield Company, et al. United States District Court Central District of California Civil Action Number CV-06 7109 JCL.

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

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Settlement in favor of plaintiff.

Case: Constance Acevedo, et al., V. California Spray-Chemical Company, et al., Superior Court of the State Of California, County Of Santa Cruz. Case No. CV 146344

Dr. Clark performed a comprehensive exposure assessment of community members exposed to toxic metals from a former lead arsenate manufacturing facility. The former manufacturing site had undergone a DTSC mandated removal action/remediation for the presence of the toxic metals at the site. Opinions were presented regarding the elevated levels of arsenic and lead (in attic dust and soils) found throughout the community and the potential for harm to the plaintiffs in question.

Case Result: Settlement in favor of defendant.

Case: Michael Nawrocki V. The Coastal Corporation, Kurk Fuel Company, Pautler Oil Service, State of New York Supreme Court, County of Erie, Index Number I2001-11247

Client: Richard G. Berger Attorney At Law, Buffalo, New York

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the

known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

Case Result: Judgement in favor of defendant.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client – Confidential

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

Client – Confidential

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

Client – Los Angeles Alliance for a New Economy (LAANE), Los Angeles, California

Dr. Clark is advising the LAANE on air quality issues related to current flight operations at the Los Angeles International Airport (LAX) operated by the Los Angeles World Airport (LAWA) Authority. He is working with the LAANE and LAX staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client – City of Santa Monica, Santa Monica, California

Dr. Clark is advising the City of Santa Monica on air quality issues related to current flight operations at the facility. He is working with the City staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

Client: Omnitrans, San Bernardino, California

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

Client: Confidential, San Francisco, California

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

Client: Confidential, Minneapolis, Minnesota

Prepared human health risk assessment of workers exposed to VOCs from neighboring petroleum storage/transport facility. Reviewed the systems in place for distribution of petroleum hydrocarbons to identify chemicals of concern (COCs), prepared comprehensive toxicological summaries of COCs, and quantified potential risks from carcinogens and non-carcinogens to receptors at or adjacent to site. This evaluation was used in the support of litigation.

Client – United Kingdom Environmental Agency

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

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

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: Ameren Services, St. Louis, Missouri

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

Client: City of Santa Clarita, Santa Clarita, California

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

Client: Confidential, Los Angeles, California

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

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

Client – Confidential, Los Angeles, California

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

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

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

Client: Confidential, San Francisco, California

Identified and analyzed fifty years of epidemiological literature on workplace exposures to heavy metals. This research resulted in a summary of the types of cancer and non-cancer diseases associated with occupational exposure to chromium as well as the mortality and morbidity rates.

Client: Confidential, San Francisco, California

Summarized major public health research in United States. Identified major public health research efforts within United States over last twenty years. Results were used as a briefing tool for non-public health professionals.

Client: Confidential, San Francisco, California

Quantified the potential multi-pathway dose received by humans from a pesticide applied indoors. Part of team that developed exposure model and evaluated exposure concentrations in a comprehensive report on the plausible range of doses received by a specific person. This evaluation was used in the support of litigation.

Client: Covanta Energy, Westwood, California

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

Client – United Kingdom Environmental Agency

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (MtBE) for the United Kingdom's Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MtBE. The results of the evaluation have been used as a briefing tool for public health professionals.

Client – Confidential, Los Angeles, California

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

Client – Confidential, Los Angeles, California

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane

rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been used as a briefing tool for non-public health professionals.

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

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

Client: Confidential, Los Angeles, California

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

Client: Kaiser Venture Incorporated, Fontana, California

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

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Client: Confidential, Atlanta, Georgia

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

Client: Confidential, Escondido, California

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

Client: Confidential, San Francisco, California

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

Client: Confidential, Bogotá, Columbia

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

Client: Confidential, Los Angeles, California

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

Client: Confidential, Los Angeles, California

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner

that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

Client: Confidential, Los Angeles, California

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

Client: Confidential, Los Angeles, California

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

Client –Dominguez Energy, Carson, California

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

Kaiser Ventures Incorporated, Fontana, California

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

ANR Freight - Los Angeles, California

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

Kaiser Ventures Incorporated, Fontana, California

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

Unocal Corporation - Los Angeles, California

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

Client: Confidential, Los Angeles, California

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

Client: Confidential, San Francisco, California

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

Client: Confidential, San Francisco, California

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

IT Corporation, North Carolina

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

Professional Associations

American Public Health Association (APHA)

Association for Environmental Health and Sciences (AEHS)

American Chemical Society (ACS)

California Redevelopment Association (CRA)

International Society of Environmental Forensics (ISEF)

Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

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

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

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

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

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

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

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

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

Journal and Proceeding Articles

- Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, Volume 70 (2008) page 002254.
- Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, Volume 70 (2008) page 000527
- Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research*. 105:194-199.
- Rosenfeld, P.E., **Clark, J. J.**, Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" *Water Science & Technology*. 55(5): 345-357.
- Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.
- Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13th Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.
- Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.
- Clark, J.J.J.** 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophenoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

- Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.
- Clark, J.J.J.**, Brown A. 1999. Perchlorate Contamination: Fate in the Environment and Treatment Options. In Situ and On-Site Bioremediation, Fifth International Symposium. San Diego, CA, April, 1999.
- Clark, J.J.J.** 1998. Health Effects of Perchlorate and the New Reference Dose (RfD). Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.
- Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.
- Clark, J.J.J.**, Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.
- Clark J.J.J.**, Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.
- Clark, J.J.J.**; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. *Toxicologist*. 30(1):14.
- Dodge, D.G.; **Clark, J.J.J.**; Kerger, B.D.; Richter, R.O.; Finley, B.L.; Paustenbach, D.J. 1996. Assessment of Airborne Hexavalent Chromium In The Home Following Use of Contaminated Tapwater. *Toxicologist*. 30(1):117-118.
- Paulo, M.T.; Gong, H., Jr.; **Clark, J.J.J.** (1992). Effects of Pretreatment with Ipratropium Bromide in COPD Patients Exposed to Ozone. *American Review of Respiratory Disease*. 145(4):A96.
- Harber, P.H.; Gong, H., Jr.; Lachenbruch, A.; **Clark, J.**; Hsu, P. (1992). Respiratory Pattern Effect of Acute Sulfur Dioxide Exposure in Asthmatics. *American Review of Respiratory Disease*. 145(4):A88.
- McManus, M.S.; Gong, H., Jr.; Clements, P.; **Clark, J.J.J.** (1991). Respiratory Response of Patients With Interstitial Lung Disease To Inhaled Ozone. *American Review of Respiratory Disease*. 143(4):A91.
- Gong, H., Jr.; Simmons, M.S.; McManus, M.S.; Tashkin, D.P.; Clark, V.A.; Detels, R.; **Clark, J.J.** (1990). Relationship Between Responses to Chronic Oxidant and Acute

Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

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