REQUEST FOR
Planning Commission Action

PLANNING COMMISSION MEETING DATE:

MAY 26, 2020

TITLE:

PUBLIC HEARING – FINAL ENVIRONMENTAL IMPACT REPORT NO. 2020-01, GENERAL PLAN AMENDMENT NO. 2020-02, AND AMENDMENT APPLICATION NO. 2020-01 TO FACILITATE CONSTRUCTION OF A MIXED-USE DEVELOPMENT AT 2300, 2310, AND 2320 SOUTH REDHILL AVENUE {STRATEGIC PLAN NOS. 3, 2; 5, 3}

Prepared by Jerry C. Guevara and Ali Pezeshkpour, AICP

PLANNING COMMISSION SECRETARY

APPROVED
- ☐ As Recommended
- ☐ As Amended
- ☐ Set Public Hearing For _____

DENIED
- ☐ Applicant's Request
- ☐ Staff Recommendation

CONTINUED TO _____

Executive Director

Planning Manager

RECOMMENDED ACTION

Recommend that the City Council:

1. Adopt a resolution certifying Final Environmental Impact Report No. 2020-01 (SCH No. 2019080011), including adoption of environmental findings of fact pursuant to the California Environmental Quality Act, adoption of a Statement of Overriding Considerations, and adoption of a Mitigation Monitoring and Reporting Program;

2. Adopt a resolution approving General Plan Amendment (GPA) No. 2020-02; and

3. Adopt an ordinance approving Amendment Application (AA) No. 2020-01 to establish Specific Development No. 96.

Executive Summary

At its regular meeting on May 11, 2020, and after receiving public testimony on the project, the Planning Commission by a vote of 3:2 (Phan abstained and Contreras-Leo absent) continued the project to May 26, 2020. The two-week continuance was provided so staff could address several topics/items, including:

A. Two written communications sent to the City by Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility, and Mitchell M. Tsai on behalf of Southwest Regional Council of Carpenters;

B. A request by the City of Tustin for a two-week continuance to May 26, 2020; and

C. Questions regarding onsite open space.

Following the May 11, 2020 Planning Commission hearing, staff and the environmental consultant prepared a memorandum that addresses the two written communications sent by Lozeau Drury LLP and Mitchell M. Tsai. The memorandum is attached as Exhibit 1.

In addition, the Planning Commission received a request from the City of Tustin requesting a two-week continuance to May 26, 2020 to allow City of Tustin staff additional time to review the final environmental impact report (EIR) and the EIR's responses to comments. On May 21, the City of Tustin provided additional comments on the Final EIR. A review of the May 21 letter indicates that the City of Tustin's questions are adequately answered by the Final EIR on pages 2-49 through 2-62 (Responses to Comments).

Lastly, following Planning Commission questions, staff prepared the following clarifications to address onsite open space. Like most cities, Santa Ana does not have a development regulation requiring public parkland on residential developments, but instead, has onsite open space requirements to address active and passive recreation.

When reviewing proposals for Specific Development zones, staff often compare proposed projects against the development standards found in other existing mixed-use documents. For reference, the City's Metro East Mixed-Use Overlay Zone (MEMU) and Harbor Mixed-Use Transit Corridor Specific Plan (SP-2) require the most amount of onsite open space, equivalent to 15 percent of the development lot area.

The project's proposed open space will be provided onsite in a variety of means and equals approximately 39 percent of the development area (5.76 acres), including ground-level recreation areas, landscape areas, plazas, walkways, courtyards, paseos, balconies, roof amenity decks, community rooms, fitness, and other services. Of this acreage, 2.44 acres (17 percent of the entire site) will be publicly accessible open space located on the ground floor. This area includes the central paeso, plaza, walkways and landscape area. The remaining 3.32 acres will be private common open space areas for residents that will contain pools, courtyards, fitness areas, relief areas for pets, and other amenities typical to high-quality mixed-use developments found in Santa Ana and in Orange County. Of this 3.32 acres of private/resident area, 1.59 acres is provided through residential patios and balconies.

During the 45-day comment period on the draft EIR, the cities of Tustin and Irvine sent letters expressing concerns with Santa Ana allowing new residential land uses near the cities' borders because residents in Santa Ana would result in additional strain on their parks. Subsequent to receiving these comments, the City prepared responses to comments in the Final EIR that highlight that the proposed development would contain sufficient onsite open space to serve the needs of its community. To add context to this figure, the Final EIR and the staff report illustrate that utilizing the City's goal of providing two (2) acres of public park and/or recreational area per 1,000 residents (SAMC Sec. 35-108), a project of this scale would typically require 4.2 acres of parkland to serve the new residents assuming an occupancy of 2,081 residents. As proposed, the project provides ample open space that exceeds the minimum required by many of the City's existing regulations. In addition, 81.88 acres of Santa Ana parkland exist within three miles of the project site and provide a variety of facilities that include sports fields, exercise equipment, picnic

areas, and playgrounds to serve the park and recreational needs of the future project's residents and employees.

In addition to the onsite open space being provided, the applicant will also pay the required in-lieu parks fees to the City, which are estimated to be $4,173,738. These park fees are placed in a special fund (Park Acquisition and Development Fund) and are used by the Parks, Recreation and Community Development Services Agency for the acquisition, construction and renovation of park and recreation facilities to reach the City's goal of providing two (2) acres of public park and/or recreational area per 1,000 residents.

Lastly, as part of the comprehensive General Plan update underway, the City is closely examining future public park opportunities in the 55 Freeway/Dyer Road focus area. Should future residential and commercial opportunities be identified in the update for this area, the City will pursue programs to develop future parkland and recreation opportunities to serve future residents, employees, and visitors to the area.

Conclusion

Based on the analyses provided within this report and attachments, staff recommends that the Planning Commission recommend that the City Council adopt a resolution certifying Final Environmental Impact Report No. 2020-01 (SCH No. 2019080011), including adoption of environmental findings of fact pursuant to the California Environmental Quality Act, adoption of a Statement of Overriding Considerations, and adoption of a Mitigation Monitoring and Reporting Program; a resolution approving General Plan Amendment (GPA) No. 2020-02; and an ordinance approving Amendment Application (AA) No. 2020-01 to establish Specific Development No. 96.

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Exhibits:

1. Memorandum Responding to Lozeau Drury LLP Comment Letter dated May 11, 2020 and to Mitchell M. Tsai Comment Letter dated May 11, 2020
2. Planning Commission Staff Report & Exhibits Dated May 11, 2020

EXHIBIT 1

2 - 4

Response to Planning Commission Comment Letters

This section provides all written comments submitted to the Planning Commission on The Bowery Mixed Use Project on May 11, 2020, which is after the close of the Draft EIR public comment period on February 18, 2020. Comment letters and responses to those comments are provided on the following pages.

Letter Number	Commenting Agency/Organization/ Individual	Comment Date	Page Number
PC1	Lozeau Drury LLP	May 11, 2020	4
PC2	Mitchell M. Tsai	May 11, 2020	107

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Letter PC1: Lozeau Drury LLP Comment Letter Dated May 11, 2020 (90 pages)

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May 11, 2020

Via Email

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Re: Final Environmental Impact Report for the Bowery Mixed-Use Project (SCH No. 2019080011)

Dear Honorable Commissioners:

I am writing on behalf of Supporters Alliance for Environmental Responsibility and its members living and working in and around the City of Santa Ana (collectively "SAFER") regarding the Final Environmental Impact Report ("FEIR") prepared for the Bowery Mixed-Use Project, located in Santa Ana, California (SCH No. 2019080011) ("Project"). After reviewing the FEIR, together with our consultants, it is clear that the document fails to comply with CEQA, and fails to adequately analyze and mitigate the Project's impacts. 1

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has conducted a review of the Project, the EIR and relevant appendices regarding the Project's indoor air emissions. Mr. Offerman concludes that it is likely that the Project will expose future residents of the Project to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is one of the world's leading experts on indoor air quality and has published extensively on the topic. Mr. Offerman's expert comments and CV are attached hereto as Exhibit A.

Traffic engineer Dan Smith also reviewed the EIR and provided expert comments detailing numerous deficiencies in the EIR's traffic impact analysis. In particular, the analysis violates CEQA because it relies on a hypothetical baseline, rather than actual conditions that existed at the time environmental analysis began. As a result, the baseline traffic level is significantly higher than it should be, which artificially reduced the traffic impacts created by the Project when compared to the baseline levels of traffic. Mr. Smith's expert comments and CV are attached hereto as Exhibit B.

In addition, environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE") has reviewed the Project, the DEIR, and the FEIR. SAFER concludes that the Project's analysis and mitigation of impacts related to hazardous materials are inadequate. SWAPE's expert comments, as well as the CVs of the SWAPE's consultants who prepared the comments are attached hereto as Exhibit C. 1

A revised EIR should be prepared and recirculated prior to Project approval to analyze all impacts and require implementation of all feasible mitigation measures, as described more fully below.

I. PROJECT DESCRIPTION

The Project is a mixed-use development that includes up to 1,150 multi-family residential units and up to 80,000 square feet of commercial retail and restaurant space on a 14.58 acre site in Santa Ana, California. The Project includes demolition of three existing buildings and removal of all existing improvements, landscaping, and pavement. In its place, the Project would develop three mixed-use buildings, each of which would be 6-stores, and one residential building that would be 5-stories in height. Each building would have an adjacent parking structure. Two parking structures would provide 7-levels of above-ground parking and two would provide 6 levels of above-ground parking. In addition, the Project would also develop two one-story retail/restaurant commercial buildings and a surface parking lot. The Project would provide a total of 174,555 square feet of exterior open space area, with each of the four residential buildings having a recreation space that includes a pool, spa/hot tub, outdoor kitchen, seating areas, fitness center, and club room. At full occupancy, the Project would house approximately 2,081 residents, and the commercial space would generate 320 employees. 2

The Project site is designated as Professional and Administrative Office ("PAO") in the General Plan, and has a zoning designation of Light Industrial (M-1). The Project seeks to change the General Plan land use designation to District Center and to change the zone to Specific Development.

The Project site is currently developed with three partially occupied industrial buildings, parking areas, and vehicle circulation drives. The buildings are currently used by various lessees, including 119,121 square feet that is used by warehousing and distribution operations, 5,000 square feet being used for research and development, and 30,000 square feet being used as

a 200-bed temporary homeless shelter. The remaining 53,000 square feet of building area is currently vacant. 2

II. LEGAL STANDARDS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR (except in certain limited circumstances). (See, e.g., Pub. Resources Code, § 21100.) The EIR is the very heart of CEQA. (*Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Cal. Resources Agency* (2002) 103 Cal.App.4th 98, 109 (*"CBE v. CRA"*).)

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.) The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal.App.4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.) 3

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

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, 91 Cal.App.4th at 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 391 409, n. 12.) As the court stated in *Berkeley Jets*, 91 Cal.App.4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public

> participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)
>
> More recently, the California Supreme Court has emphasized that:
>
> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted]....

(*Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 510 (2018), citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405.) The Court in *Sierra Club v. Cty. of Fresno* also emphasized at another primary consideration of sufficiency is whether the EIR "makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." (6 Cal.5th at 510.) "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." (*Id.* at 516.) Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" (6 Cal.5th at 516, citing *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.) "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." (6 Cal.5th at 516.) As the Court emphasized (*Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 514.): 3

> [W]hether 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. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

In general, mitigation measures must be designed to minimize, reduce or avoid an identified environmental impact or to rectify or compensate for that impact. (CEQA Guidelines § 15370.) Where several mitigation measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. (*Id.* at § 15126.4(a)(1)(B).) A lead agency may not make the required CEQA findings unless the administrative record clearly shows that all uncertainties regarding the mitigation of significant environmental impacts have been resolved.

III. ANALYSIS

A. THERE IS SUBSTANTIAL EVIDENCE THAT THE PROJECT WILL HAVE SIGNIFICANT INDOOR AIR QUALITY IMPACTS.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has conducted a review of the proposed Project and relevant documents regarding the Project's indoor air emissions. Indoor Environmental Engineering Comments (May 4, 2020) (Exhibit A). Mr. Offermann concludes that it is likely that the Project will expose residents of the Project and employees who work in the commercial space to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic. *See* attached CV.

Mr. Offermann explains that many composite wood products used in modern apartment home construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." Offermann, pp. 2-3.

Formaldehyde is a known human carcinogen. Mr. Offermann states that there is a fair argument that future residents of the Project will be exposed to a cancer risk from formaldehyde of approximately 112 per million, assuming all materials are compliant with the California Air Resources Board's formaldehyde airborne toxics control measure. *Id.*, p. 3-4. This more than 11 times the South Coast Air Quality Management District's ("SCAQMD") CEQA significance threshold for airborne cancer risk of 10 per million. In addition, Mr. Offermann concludes that people working the commercial spaces of the Project will be exposed to an increased cancer risk from formaldehyde of 16.4 per million, which also exceeds the threshold of significance. *Id.* at 5. Mr. Offermann concludes that these significant environmental impacts must be analyzed in the EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. *Id.*, p. 4-5. 4

Mr. Offermann also notes that the high cancer risk that may be posed by the Project's indoor air emissions likely will be exacerbated by the additional cancer risk that exists as a result of the Project's location near roadways with moderate to high traffic (i.e. CA-55, Carnegie Avenue, Warner Drive, Red Hill Avenue, and Pullman Street) and the high levels of PM 2.5 already present in the ambient air. Offermann, pp. 10-11. No analysis has been conducted of the significant cumulative health impacts that will result to future residents of the Project.

Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the preferred mitigation measure that would require the applicant use only composite wood materials (e.g. hardwood plywood, medium density

fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins in the buildings' interiors. *Id.* at 12-13. Proposed mitigation also includes the installation of air filters and outdoor air ventilation. *Id.* 4

The City has a duty to investigate issues relating to a project's potential environmental impacts, especially those issues raised by an expert's comments. *See Cty. Sanitation Dist. No. 2 v. Cty. of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98 ("under CEQA, the lead agency bears a burden to investigate potential environmental impacts"). In addition to assessing the Project's potential health impacts to residents, Mr. Offermann identifies the investigatory path that the City should be following in developing an EIR to more precisely evaluate the Projects' future formaldehyde emissions and establishing mitigation measures that reduce the cancer risk below the SCAQMD level. *Id.*, pp. 5-10. Such an analysis would be similar in form to the air quality modeling and traffic modeling typically conducted as part of a CEQA review.

The failure to address the project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). At issue in *CBIA* was whether the Air District could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of adjacent environmental conditions on a project. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects on a project. *CBIA*, 62 Cal.4th at 800-801. However, to the extent a project may exacerbate existing adverse environmental conditions at or near a project site, those would still have to be considered pursuant to CEQA. *Id.* at 801 ("CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"). In so holding, the Court expressly held that CEQA's statutory language required lead agencies to disclose and analyze "impacts on ***a project's users or residents*** that arise ***from the project's effects*** on the environment." *Id.* at 800 (emphasis added). 5

The carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition. Those emissions to the air will be from the Project. Residents and workers will be users of the Project. Currently, there is presumably little if any formaldehyde emissions at the site. Once the project is built, emissions will begin at levels that pose significant health risks. Rather than excusing the City from addressing the impacts of carcinogens emitted into the indoor air from the project, the Supreme Court in *CBIA* expressly finds that this type of effect by the project on the environment and a "project's users and residents" must be addressed in the CEQA process.

The Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings,* either directly or indirectly.'" *CBIA*, 62 Cal.4th at 800 (emphasis in original). Likewise, "the

Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." *Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d). It goes without saying that the hundreds of future residents and employees of the Project are human beings and the health and safety of those individuals is as important to CEQA's safeguards as nearby residents currently living and working near the project site. 5

Mr. Offermann's expert comments constitute substantial evidence of a fair argument of a significant environmental impact to future users of the project, but this potentially significant impact is not analyzed in the EIR. A revised EIR must be prepared to disclose and mitigate those impacts.

B. THE EIR FAILS TO ADEQUATELY ANALYZE AND MITIGATE TRAFFIC IMPACTS.

As detailed more fully in the attached comments of traffic engineer Dan Smith (Ex. B), the Project will have significant impacts on traffic that have either been underestimated or have not been addressed at all in the EIR. By failing to disclose the full extent of the Project's traffic impacts, the EIR fails as an informational document.

1. <u>The EIR violets CEQA because it relies on a hypothetical baseline rather than conditions that exist at the time environmental analysis begins.</u>

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. 6
Cmty. for a Better Env't v. So. Coast Air Qual. Mgmnt. Dist. (2010) 48 Cal. 4th 310, 321. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

> "…must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant."

See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125. As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. (*Save Our Peninsula*, 87 Cal.App.4th at 121-123. Using such a skewed baseline "mislead(s) the public" and "draws a red herring across the path of public input." *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 656; *Woodward Park Homeowners v. City of Fresno* (2007) 150 Cal.App.4th 683, 708-711.

Here, the EIR's traffic analysis does precisely what the courts prohibit. The EIR relies on hypothetical permitted levels of use rather than the real conditions on the ground when the environmental analysis began. By relying on a skewed baseline, the EIR understates the Project's traffic impact.

In order to determine the amount of traffic generated by the Project compared to the baseline levels, the EIR calculated the Project's projected traffic, and then deducted "trip credits" based on estimates of existing traffic levels. Mr. Smith explains in his comments that the "trip credits" taken for existing use of the site are excessive, overstating existing traffic, and as a result understates the Project's traffic impacts.

Ricoh Electronics, Inc., a manufacturer and distributer of thermal paper and toner, formerly occupied the entire Project site from 1985 through 2017. DEIR, 3-1. The DEIR lists the Project site's current uses as: 1) 119,121 square feet of warehouse and distribution, 2) 5,000 square feet of research and development, 3) 53,000 square feet of vacant space, and 4) 30,000 square feet in use as a temporary homeless shelter. DEIR, 3-1. The DEIR specifies that these "tenants began utilizing the site after cessation of the Ricoh Electronics operations." DEIR, 5.9-13.

Rather than relying on baseline traffic conditions existing at the time the Notice of Preparation ("NOP") was issued July 26, 2019, the EIR's traffic analysis relies on a baseline that assumes the entire 212,121 square feet of existing building area is fully occupied and being used as an industrial park. Smith, p. 1. There is no evidence that the Project site was fully occupied and operating as an industrial park when the NOP was issued or when the EIR was prepared. It is unclear whether the EIR's baseline assumption is premised on the site being zoned for Light Industrial, or if it was based on the site previously being fully operated with industrial uses. Either explanation requires use of a hypothetical baseline, which violates CEQA. 6

Table 1 – Trip Rates Based on Prior Land Use*

Land Use Category	Use Size (sq. ft.)	Daily Trips**	AM Peak**	PM Peak**
Warehouse	119,121	279	27	31
Research & Development	5,000	56	2	2
Homeless Shelter	30,000	negligible	0	0
Vacant Space	53,000	0	0	0
Total trips from existing uses	**207,121*** **	**335**	**29**	**33**
EIR Baseline based on Industrial Park Use	212,121	1,326	159	159
Percent increase when EIR baseline is compared to Existing Use baseline		**395%**	**540%**	**481%**

*Data based on *Trip Generation, 10th Edition.*
** Numbers are trips in passenger car equivalents ("PCE").

**The existing uses described in the EIR only add up to 207,121 square feet, while the EIR's traffic study relied on 212,121 square feet of land uses at the Project site.

When Mr. Smith analyze trip generation based on uses existing at the time the environmental analysis began in July 2019, he determined that baseline traffic levels are significantly lower than was analyzed in the EIR. The DEIR concludes that based on a fully occupied industrial park, the baseline trip generation would be 159 passenger car equivalent ("PCE") trips in the AM peak hour and the PM peak hour, with a daily total of 1,326. Smith, p. 2, (citing DEIR, 5.14-11, table 5.14-5). In contrast, based on the actual existing land uses at the time the NOP was circulated, the maximum trip generation is 29 PCE trips in the AM peak, and 33 PCE trips in the PM peak hour, for a daily total of 335 trips. Smith, p. 2. In other words, while existing uses generate only 29 PCE trips in the AM peak, the EIR takes credit for 159 PCE trips, an increase of 540%. Similarly, the EIR's baseline inflates the trips generated in the PM peak and daily trips by 481% and 395%, respectively.

Overstating baseline traffic skews the calculation of what additional traffic the Project will generate. For example, the DEIR assumes the Project will generate 604 PM peak trips. By deducting an additional 126 trips[1] based on an existing industrial park use, **the DEIR underestimates the Project's traffic impact by nearly 21 percent**. "This flaw alone is sufficient to significantly alter findings of impact and mitigation requirements." Smith, p. 2. 6

The EIR's error is similar to that in *Woodward Park Homeowners v. City of Fresno ("Woodward")* (2007) 150 Cal.App.4th 683, 708-711.) In that case, a developer proposed to build a shopping mall on a vacant lot. The EIR erroneously used as a baseline an office park that was previously approved for the parcel, and subtracted the difference. The court held that the baseline should have been zero since the property was actually vacant. Using the non-zero baseline for the vacant parcel misled the public into thinking the proposed shopping mall's impacts would be much less than they would be when compared to the existing vacant parcel.

This is exactly what happened here. The EIR underestimates traffic generated from the Project because it relies on excessive deductions of traffic of the prior use of the Project site. Using an inflated baseline premised on a hypothetical use of the Project site as an industrial park misleads the public and decision makers into believing the Project's traffic impacts will be much less than they are when compared to the existing land uses. The EIR's traffic baseline violates CEQA. The EIR must be revised to analyze the Project's traffic impact using a baseline as it existed at the time the environmental analysis began.

2. The EIR improperly classifies 18,000 square feet of retail in the Project as a shopping center.

To calculate the amount of traffic generated from the 18,000 square feet of retail space included in the Project, the EIR relied on "Land Use Category 820, "Shopping Center." Smith, 7

[1] (159 trips based on full industrial park use) – (33 trips based on uses at time NOP issued) = 126 excess trips.

p. 2. But Mr. Smith observes that 18,000 square feet of retail does not make a shopping center. *Id.* He explains:

> Shopping centers only generate trips at the average rates employed in the subject analysis when they reach a size of about 400,000 square feet of floor area. Small footprint retail normally generates trips at much higher peak and daily rates per thousand square feet than the shopping center average. The 18,000 square feet of retail in the Project is about the typical size of a boutique grocery like a Trader Joe's or a Walgreens Pharmacy.

Smith, pp. 3-4.

By inappropriately relying on the Shopping Center land use category, the EIR greatly underestimates the Project's trip generation. Table 1, below, compares the significant difference in trips generated by a Shopping Center compared to a Pharmacy or Supermarket land use category. For example, a Shopping Center land use would generate only 37.75 daily trips per 1,000 square feet, while a Supermarket would generate 106.78 daily trips, nearly three times as many.

Table 2 – Trip Rates Per 1,000 Square Feet Based on Land Use Category

Land Use Category	Daily	AM Peak	PM Peak
Supermarket	106.78	3.82	9.24
Pharmacy	90.08	2.94	8.51
Shopping Center	37.75	0.94	3.81

7

Table 2 compares the trips generated for the Projects 18,000 square feet of retail when the three different land use categories are applied.

Table 3 – Trip Rates for 18,000 Square Feet of Retail Based on Land Use Category

Land Use Category	Daily	AM Peak	PM Peak
Supermarket	1,922	69	166
Pharmacy	1,622	53	153
Shopping Center	680	17	69

Mr. Smith concludes that these difference in trip generation rates, "when added to adjustment of the improper credit for the prior use, take on cumulative significance." Smith, p. 3.

There is no evidence to support the EIRs use of the Shopping Center land use category for the Project's 18,000 square feet of retail when that category is meant for structures of 400,000 square feet of retail or more. As a result, there is no evidence to support the EIR's findings regarding the severity of the Project's traffic impact.

3. The EIR makes excessive assumptions of trip reductions from internalization and passer-by attraction.

The EIR assumes that internal trips and attracted passers-by will account for 31.5 percent of the Project's gross trip generation in the AM traffic peak hour and 42 percent of the Project's gross trip generation in the PM traffic peak hour. Smith, p. 4. When combined with the improper deductions taken for the abandoned prior use as an industrial park, deductions eliminate 47.2 percent of the gross AM peak trip generation and 54 percent of the gross PM peak trip generation. *Id.* 8

This analysis assumes internalization rates and attracted passerby rates at the maximum end of the range provided for in the *Trip Generation Handbook, 3rd* Edition. *Id.* In doing so, the EIR makes another in a series of assumptions, all most favorable to the Project, and all minimizing trip and traffic generation. CEQA requires more than merely disclosing the most generous interpretation of potential impacts. CEQA requires a lead agency to disclose the full scope of potential impacts. By relying solely on the most favorable assumptions, with no discussion of the possibility of greater impacts, the EIR misleads the public and decision makers, and fails as an informational document.

4. The EIR fails to adequately respond to comments on traffic by the Orange County Transportation Agency.

In its comments on the DEIR, the Orange County Transportation Agency identifies numerous roadways for which the DEIR's description of roadway cross-section is wrong. FEIR, 2-35 to 2-37. In response, "the FEIR corrects the text of the relevant table but fails to analyze whether the changes have any consequential impact on the outcomes of impact analysis." Smith, p. 4. Overstating the number of lanes on several roadways could have significant consequences on the Project's traffic impacts and the mitigation required for those impacts. The FEIR must be revised to address the impact of these changes on the traffic analysis. 9

5. As a result of numerous deficiencies, the EIR's traffic analysis violates CEQA.

Based on the above deficiencies, Mr. Smith correctly concludes as follows:

Because the DEIR improperly deducted trips for a prior use of the Project site that was not present when the NOP was circulated nor when baseline traffic counts for the analysis were taken, because it unreasonably treats 18,000 square feet of unspecified retail commercial as a "shopping center" rather than a logical specific use or range of uses that would occupy a retail floor area of this size and because the analysis consistently makes assumptions most favorable to the Project with regard to trip internalization and passer-by attraction, the FEIR should not be certified, the traffic analysis should be redone and the environmental document should be recirculated in "draft" status. 10

Smith, p. 4.

It would be an abuse of discretion for the City to approve the EIR because the traffic analysis fails to include relevant information, as discussed above, which precludes informed decision making and informed public participation. By failing to disclose the full extent of the Project's traffic impacts, the EIR fails as an informational document. 10

C. THE PROJECT WILL HAVE A SIGNIFICANT IMPACT ON POPULATION AND HOUSING BECAUSE IT WILL DISCLOSE 200 HOMELESS PEOPLE, RESULTING IN THE NEED FOR NEW HOUSING.

CEQA requires the lead agency to determine whether the "environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly." Pub Res. Code § 21083(b)(3), (d). CEQA Guidelines Appendix G, Section XIV provides that a project will have a significant impact on population and housing if it will "[d]isplace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere."

Here, 30,000 square feet of the Project site is currently being used as a homeless shelter, housing 200 homeless. DEIR, 5.11-3. By converting the homeless shelter into market rate housing, the Project will displace up to 200 people, who by definition have no other housing.

The DEIR claims that the Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. DEIR, 5.11-11. The DEIR supports this conclusion based solely on the statement that "Santa Ana is working on various homeless shelter solutions, including the purchase of a permanent homeless shelter site, that are anticipated to be available for the existing persons on the Project site prior to construction of the proposed Project." *Id.* This statement does not constitute substantial evidence to support the DEIR's conclusion that the Project will not have a significant impact. 11

While Santa Ana may be working on "various homeless shelter solutions," this is not evidence that up to 200 homeless people will be displaced as a result of the Project, and those 200 people will require housing elsewhere. Moreover, if the City is looking to purchase a permanent homeless shelter site, it will need to construct replacement housing on that site, constituting a significant impact under CEQA.

The City's conclusion that the Project will not have a significant impact stemming from displacement of up to 200 homeless people violates CEQA because it is not supported by substantial evidence.

D. THE EIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE THE PROJECT'S IMPACTS RELATED TO HAZARDS AND HAZARDOUS MATERIALS.

1. The EIR fails as an informational document because it fails to disclose that the Project site is contaminated with hazardous materials and is on the Cortese List.

A Project has a significant impact on the environment if it is "located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 [the Cortese List] and, as a result, create[s] a significant hazard to the public or the environment." CEQA, Appendix G; DEIR, 5.7-21.

The DEIR states that the Project would have no such impact. It claims:

> **No Impact.** The Phase I Environmental Site Assessments that was conducted database searches to determine if the Project area or any nearby properties are identified as currently having hazardous materials. The record searches determined that although the site has a history of various uses, and identified as previously generating hazardous wastes and clean-up activities, the Project site is not located on or near by a site which is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5 (Phase I 2018).
>
> The Phase I ESA did not identify any nearby or surrounding area sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, impacts related to hazards from being located on or adjacent to a hazardous materials site would not occur from implementation of the proposed Project.

DEIR, 5.7-26. 12

The FEIR goes on to claim that "Sites where response actions have been completed and no operation and maintenance activities are required are not included on the list." This statement is false and the EIR provides not evidence to support it or the DEIR's analysis.

The Department of Toxic Substances Control states in no uncertain terms in its comments that the Project is on the Cortese List. See, FEIR, 2-3. The DEIR even acknowledges DTSC's expertise in this area, noting that DTSC "is responsible for a portion of the information contained in the Cortese List." DEIR, 5.7-4.

Closure of an underground storage tank case does not take a site off the Cortese List. A case is closed if clean-up activities achieve certain standards. The level of remediation required depends on the proposed future use of the site. For example, a site may be closed because it was remediated to a level sufficient for the site to be used for industrial purposes, but residual 13

contamination may remain at levels that would not be safe for residential development. This is why it is important to keep sites on the Cortese List even if they are closed.

But even assuming *arguendo* the Project site was no longer on the Cortese List because it was a closed site – which is untrue – the EIR still needed to discuss the Cortese List because, according to the Phase I and II reports, the site will need to be reopened for additional remediation, which - under the EIR's reasoning – would put the site back on the List once again. 13

In addition to not disclosing that the site is on the Cortese List, the EIR also fails to disclose material information about the Project site. Instead, to truly learn about the hazardous materials and contamination at the Project site, the public and decision makers are required to dig through thousands of pages in the appendices in order to find out basic information about the Project. This violates CEQA.

For example:

- The DEIR does not disclose that the Project site is contaminated with hazardous materials at levels that exceed residential human health screening levels.
- The DEIR does not disclose the impact the existing contamination could have on human health of construction workers or future residents of the Property.
- The DEIR does not mention or describe previous hazardous materials remediation efforts at the Project site. 14
- The DEIR does not disclose that the Project will need to re-open its formerly closed case in order to further remediate existing contamination such that the site would meet residential contamination standards.

This important information is only available in the EIR's appendices. Burying this information in hundreds of pages of appendices does not remedy this omission from the EIR. Multiple courts have held that relevant information about a Project's environmental impact must be presented in the EIR itself. "Information 'scattered here and there in EIR appendices' or a report 'buried in an appendix' is not a substitute for 'a good faith reasoned analysis." *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442.

The EIR's failure to disclose the above information renders the EIR inadequate as an informational document.

2. <u>The EIR fails to provide a good faith reasoned response to comments from DTSC.</u>

Public and sister-agency participation is an essential part of the CEQA process. Public review of environmental documents serves the following purposes: (a) sharing expertise; (b) disclosing agency analyses; (c) checking for accuracy; (d) detecting omissions; (e) discovering public concerns; and (f) soliciting counter proposals. CEQA Guidelines, § 15200. 15

An agency's responses to comments must specifically explain the reasons for rejecting suggestions received in comments and for proceeding with a project despite its environmental impacts. Such explanations must be supported with specific references to empirical information, scientific authority, and/or explanatory information. (*Cleary v. County of Stanislaus* (1981) 118 Cal.App.3d 348, 357.) The responses, moreover, must manifest a good faith, reasoned analysis; conclusory statements unsupported by factual information will not suffice. (*People v. County of Kern* (1974) 39 Cal.App.3d 830, 841.)

The responses to comments on a draft EIR must state reasons for rejecting suggestions and objections concerning significant environmental issues. *City of Maywood v Los Angeles Unified Sch. Dist.* (2012) 208 CA4th 362, 391. Responses to comments must manifest a good faith, reasoned analysis; conclusory statements unsupported by factual information will not suffice. *People v. County of Kern* (1974) 39 Cal.App.3d 830, 841. The need for a reasoned, factual response is particularly acute when critical comments have been made by other agencies or experts. *Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs.*, (2001) 91 Cal.App.4th 1344, 1367, 1371 ("*Berkeley Jets*") (conclusory responses to comments from experts and other agencies that criticized data and methodologies used to assess impacts and that were based on extensive supporting studies rendered EIR legally inadequate). "Where comments from responsible experts or sister agencies disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored. There must be good faith, reasoned analysis in response." *Id.* at 1367 (EIR inadequate due to failure to respond to expert evidence on toxic air contaminants). 15

The City's responses to comments made by the Department of Toxic Substances Control ("DTSC") were cursory and inadequate. DTSC noted in its comments that the "EIR states that this Project is not located on or near by a site which is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5," commonly referred to as the "Cortese List." FEIR, 2-3. DTSC requested that the EIR be revised to state that the Project is in fact listed on Geotracker and is located near several hazardous materials sites. *Id.*

In response to DTSC's comment, the FEIR states:

> The State Water Resources Control Board GeoTracker site identifies that previous contamination on the site occurred from an underground storage tank (UST) occurred onsite and that cleanup and UST removal activities occurred onsite from 1986 through 2006. The cleanup and remediation activities resulted in a "Completed - Case Closed" status as of August 13, 2010, as shown in the attached GeoTracker Listing for the project site. The GeoTracker information identifies only one other hazardous materials site within 1,000 feet of the project site, which is a military UST site located in the former Tustin Marine Corps Air Station. The GeoTracker information can be accessed at the following link:
> https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605900440

FEIR, 2-7.

The City's response does not clearly or adequately reply to DTSC's comments. DTSC says that the DEIR incorrectly states that the Project site is not on the Cortese List, when in fact it is. DTSC therefore requested that the EIR be corrected to inform the public and decisionmakers of the listing and the potential hazards relating to the site. Rather than replying by fixing the EIR, or providing some evidence that the site is not on the Cortese List, the City neither admits that the Project is on the Cortese List nor denies that it is. Instead, the City tries to obfuscate the issue by noting that a previous remediation resulted in a Case Closure status as of August 2010.

This is particularly troubling because the EIR admits that DTSC is an expert on this subject, noting that DTSC "is responsible for a portion of the information contained in the Cortese List." DEIR, 5.7-4 If the City disagrees with DTSC's conclusion that the Project is on the Cortese List, it must say so, accompanied by a reasoned explanation. "[W]here comments from responsible experts or sister agencies disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored." *Banning Ranch Conservancy v. City of Newport Beach* (2017) 2 Cal. 5th 918, 940. The FEIR does not include a good faith, reasoned explanation as to why it did not revise the EIR to correct the false statement that the Project site is not on the Cortese List. This was an abuse of discretion. 15

The City also failed to respond at all to DTSC's comments relating to the inadequacy of the EIR's analysis of "whether the Project Site was remediated to meet the residential land use cleanup goals." FEIR, 2-3. The FEIR's response to DTSC's comments never even mentions residential land use clean up goals, or provides evidence that the site has been remediated to such levels.

3. The EIR does not Adequately Mitigate Hazards and Hazardous Waste Impacts.

Mitigation Measure HAZ-1 does not fully mitigate the Project's hazardous materials impacts. As environmental consulting firm SWAPE explains in its expert comments:

> Mitigation Measure HAZ-1 requires a soil management plan to be used during construction to guide the removal and disposal of the areas of TPH-impacted soil. On its own, a soil management plan is insufficient. To ensure the adequacy and the health-protectiveness of the cleanup, engagement of the DTSC is necessary. DTSC engagement should be formalized through a voluntary cleanup agreement and the cleanup of the Project site should follow an assessment and cleanup program directed by DTSC. 16

SWAPE, p. 1.

SWAPE explains that "a soil management plan is not an instrument that is used by DTSC

or any other regulatory agency in assessing the need for cleanups or in planning for cleanups to be health protective." SWAPE, p. 2. The soil management plan that would be required by Mitigation Measure HAZ-1 would include:

- A certified hazardous waste hauler to remove all potentially hazardous soils
- Excavation and removal of contaminated soils
- Sampling of soil during excavation to ensure that all contaminated soils are removed, and that residential Environmental Screening Levels (ESLs) for residential uses are not exceeded.
- Subsurface materials exposed during construction activities that appear suspect of contamination, either from visual staining or suspect odors, shall require immediate cessation of excavation activities and soils suspected of contamination shall be tested.
- If contamination is found to be present per the California Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB) ESLs for residential uses, it shall be transported and disposed of per California Hazardous Waste Regulations
- Preparation of a Health and Safety Plan.

Contrary to the EIR's claims in response to comments from DTSC, the soil management plan would in no way "meet the same intent and requirements as the Removal Action Workplan or a Remedial Action Plan." SWAPE, p. 2. For example, SWAPE notes that a removal action work plan, as recommended by DTSC in its comments, shall: 16

- Identify the nature and the extent of contaminants
- Describe the health effects of the contaminants
- Perform a health risk evaluation
- Identify cleanup goals
- Perform an engineering evaluation and cost analysis
- Compare remedial alternatives
- Describe the selected remedy
- Allow for public participation
- Provide dust control
- Conduct confirmatory sampling.

SWAPE, p. 2.

A Removal Workplan or a Remedial Action Plan is necessary for mitigation of the Project's significant impacts stemming from on-site contamination.

4. Mitigation Measure HAZ-1 constitutes deferred mitigation under CEQA.

17

CEQA disallows deferring the formulation of mitigation measures to post-approval

studies. CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309. "[M]itigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decisionmaking under CEQA. *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794; Guidelines § 15126.4(a)(1)(B). Deferral of formulation of mitigation measures pending the completion of a future study is appropriate only where there is a practical reason that prevents formulation of a mitigation measures during CEQA review. *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-29.

Moreover, by deferring the development of specific mitigation measures, the Applicant has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the *Sundstrom* court:

> An EIR … [is] subject to review by the public and interested agencies. This requirement of "public and agency review" has been called "the strongest assurance of the adequacy of the EIR." The final EIR must respond with specificity to the "significant environmental points raised in the review and consultation process." . . . Here, the hydrological studies envisioned by the use permit would be exempt from this process of public and governmental scrutiny.

Sundstrom, 202 Cal.App.3d at 308.

17

Mitigation Measure HAZ-1 requires that, prior to issuance of a grading permit, a "Soil Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant and shall detail procedures and protocols for excavation and disposal of onsite hazardous materials…" DEIR, 1-12.

Mitigation Measure HAZ-1 constitutes precisely the type of deferred mitigation CEQA prohibits. The EIR defers preparation of the soil management plan until after completion of CEQA review, without imposing any substantive standards, and without providing for any pubic review.

Moreover, there is no requirement that the Soil Management Plan be submitted to any agency for approval, so the applicant in essence is itself determining what constitutes sufficient mitigation. Deferral of mitigation is also impermissible if it removes the CEQA decision-making body from its decision-making role. The City may not delegate the formulation and approval of mitigation measures to address environmental impacts because an agency's legislative body must ultimately review and vouch for all environmental analysis mandated by CEQA. *Sundstrom v County of Mendocino* (1988) 202 Cal.App.3d 296, 306-308. Thus, the EIR may not rely on programs to be developed and implemented later without approval by the City. Yet that is precisely what MM HAZ-1 does.

The EIR may not rely on the soil management plan to be developed, approved, and implemented later without any approval by the City, at some future time after the Project has

been approved. Without valid mitigation, the Project's significant hazardous materials impact remains significant. 17

5. The EIR's conclusions related to hazardous impacts from contaminated groundwater are not supported by substantial evidence.

The EIR must be revised to correct its inconsistent statements about the likelihood of encountering contaminated groundwater during Project construction. The FEIR states:

> [I]t is described on page 5.5-5 in Section 5.5, Geology and Soils, of the Draft EIR that based on onsite borings the depth of groundwater is in the range of 24 to 33 feet below ground surface (bgs). This depth of groundwater would not impact persons onsite during operation of the proposed mixed-uses. Also, the Draft EIR page 3-19, Section 3.0, Project Description, describes that excavation and grading during project construction would be a minimum of 5 feet below the bottom of the building foundations. As the depth of groundwater currently ranges between 24 to 33 feet, project excavation of approximately 5 feet below building foundations would not result in encountering groundwater. Thus, construction workers would also not be in contact with, and therefore impacted by, contaminated groundwater. Therefore, the potential risk to future receptors associated with groundwater contamination would be less than significant. 18

FEIR, 2-8.

But SWAPE points out that the assertion that groundwater is in the range of 24 to 33 feet deep contradicts the case closure summary attached to the SARWQCB No Further Action letter for the Project site, which states that groundwater is at depths of 5.67 to 13 feet deep (as excerpted in the below table). SWAPE, p. 3 (citing No Further Action Letter, attached hereto as Exhibit D).

III. Release and Site Characterization Information

Cause and type of release: Unknown					
Site characterization complete?	Moderate to low concentration of petroleum hydrocarbons were detected in the soil and groundwater to the south and southwest of the UST. The affected soil and groundwater was not defined to non-detect.		Date approved by agency		
Monitoring wells installed?	Yes	Number	11	Proper screen interval?	Yes
Deepest GW depth	13 feet		Shallowest GW depth		5.67 feet

Based on this data, SWAPE concludes that "if Project excavation is 'a minimum of 5 feet below the bottom of building foundations' (FEIR, p. 2-8), groundwater is likely to be encountered if found at depths as shallow as 5.67 feet as stated by the SARWQCB in the table

above. The FEIR needs to plan for protection of construction workers who may encounter contaminated groundwater when excavation is conducted." SWAPE, p. 4.

IV. CONCLUSION

For the foregoing reasons, SAFER requests the Planning Commission decline to recommend approval of the Project and certification of the FEIR, and instead require preparation of a revised EIR that conforms with CEQA, as described above. 18

Sincerely,

Rebecca L. Davis

EXHIBIT A

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Date: May 4, 2020

To: Rebecca Davis
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Oakland, California 94612

From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: The Bowery – Santa Ana, CA
(IEE File Reference: P-4358)

Pages: 19

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments. 19

The concentrations of many air pollutants often are elevated in homes and other buildings relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson,

2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 µg/m^3, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 µg/m^3. The median indoor formaldehyde concentration was 36 µg/m^3, and ranged from 4.8 to 136 µg/m^3, which corresponds to a median exceedance of the 2 µg/m^3 NSRL concentration of 18 and a range of 2.3 to 68. 19

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m^3, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the South Coast Air Quality Management District (SCAQMD, 2015).

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels (RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017b). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3. 20

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and

particleboard. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations that are below cancer and non-cancer exposure guidelines. 20

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Chan et. al., 2019), and found that the median indoor formaldehyde in new homes mostly (69 of 70) built in 2012 or later with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 38% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 112 per million for homes built with CARB compliant composite wood products, which is more than 11 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a). 21

With respect to this project, the buildings in The Bowery Mixed-Use Project in Santa Ana, CA consist of residential and commercial retail and restaurant spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 22.4 $\mu g/m^3$ (Chan et. al., 2019)

Assuming that the residential occupants inhale 20 m^3 of air per day, the average 70-year lifetime formaldehyde daily dose is 448 µg/day for continuous exposure in the residences. This exposure represents a cancer risk of 112 per million, which is more than 11 times the South Coast Air Quality Management District CEQA cancer risk of 10 per million (SCAQMD, 2015). For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the SCAQMD CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 5 times the SCAQMD CEQA cancer risk of 10 per million).

21

The employees of the commercial spaces are also expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because these commercial will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor warehouse formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 22.4 $\mu g/m^3$ (Chan et. al., 2019).

Assuming that the commercial space employees work 8 hours per day and inhale 20 m^3 of air per day, the formaldehyde dose per work-day at the offices is 149 µg/day.

Assuming that the commercial space employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime

formaldehyde daily dose is 65.6 µg/day.

This is 1.64 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 16.4 per million, which exceeds the CEQA cancer risk of 10 per million. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. 21

Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

While measurements of the indoor concentrations of formaldehyde in residences built with CARB Phase 2 Formaldehyde ATCM materials (Chan et. al., 2019), indicate that indoor formaldehyde concentrations in buildings built with similar materials (e.g. hotels, residences, offices, warehouses, schools) will pose cancer risks in excess of the CEQA cancer risk of 10 per million, a determination of the cancer risk that is specific to this project and the materials used to construct these buildings can and should be conducted prior to completion of the environmental review.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products. 22

The following describes a method that should be used prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of the specific building materials/furnishings selected for the building exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and

incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment.

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type. 22

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., m^2 of material/m^2 floor area, units of furnishings/m^2 floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde

emission rate (µg/m^2-h) and the area (m^2) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., µg/m^2-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 µg/m^2-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 µg/m^2-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate. 22

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

22

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/m^3) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate (m^3/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

C_{in} = indoor formaldehyde concentration (µg/m^3)

E_{total} = total formaldehyde emission rate (µg/h) into the IAQ Zone.

Q_{oa} = design minimum outdoor air ventilation rate to the IAQ Zone (m^3/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section

3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

22

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder to "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde. 22

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated air contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 ach, with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations. 23

The Bowery Mixed-Use Project in Anaheim, CA is close to roads with moderate to high traffic (e.g. CA-55, Carnegie Avenue, Warner Drive, Red Hill Avenue, and Pullman Street) and the John Wayne Airport. As a result of the outdoor vehicle and air traffic noise, the Project site is likely to be a sound impacted site. The noise analyses provided in the Draft

Environmental Impact Report (EPD Solutions. 2020), reports in Appendix I, Table 8-2, that the exterior traffic noise levels will range from 68.6 to 73.2 dBA CNEL.

As a result of the high outdoor noise levels, the current project will require the need for mechanical supply of outdoor air ventilation air to allow for a habitable interior environment with closed windows and doors. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors. 23

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. According to the Draft Environmental Impact Report (EPD Solutions. 2020), this Project is located in South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

An air quality analyses should to be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient $PM_{2.5}$ removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards. 24

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. MERV 13 or higher) in all mechanically supplied outdoor air ventilation systems.

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

- indoor formaldehyde concentrations
- outdoor air ventilation
- $PM_{2.5}$ outdoor air concentrations

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins (CARB, 2009). Other projects such as the AC by Marriott Hotel – West San Jose Project (Asset Gas SC Inc.) and 2525 North Main Street, Santa Ana (AC 2525 Main LLC, 2019) have entered into settlement agreements stipulating the use of composite wood materials only containing NAF or ULEF resins.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks. 25

It is important to note that we are not asking that the builder to "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy

Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor airflow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants or maintenance personnel, that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

25

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California"*. In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products ? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality*" when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the Bay Area Air Quality Management District CEQA cancer risk of 10 per million. 26

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 ft^2), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor

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Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health, Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 m^3/h) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 ft^2 (0.7% of the floor area), or
Particle Board – 30 ft^2 (1.3% of the floor area), or
Hardwood Plywood – 119 ft^2 (5.3% of the floor area), or
Thin MDF – 46 ft^2 (2.0 % of the floor area). 26

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 29 % (offices) and 37% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry,

could be used without causing indoor formaldehyde concentrations that result in CEQA cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

If CARB Phase 2 compliant composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e., Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde. 26

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins. These products are now readily available and many other projects such as the AC by Marriott Hotel – West San Jose Project and 2525 North Main Street, Santa Ana have entered into settlement agreements stipulating the use of composite wood materials only containing NAF or ULEF resins.

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Education

M.S. Mechanical Engineering (1985)
Stanford University, Stanford, CA.

Graduate Studies in Air Pollution Monitoring and Control (1980)
University of California, Berkeley, CA.

B.S. in Mechanical Engineering (1976)
Rensselaer Polytechnic Institute, Troy, N.Y.

Professional Experience

President: Indoor Environmental Engineering, San Francisco, CA. December, 1981 - present.

Direct team of environmental scientists, chemists, and mechanical engineers in conducting State and Federal research regarding indoor air quality instrumentation development, building air quality field studies, ventilation and air cleaning performance measurements, and chemical emission rate testing.

Provide design side input to architects regarding selection of building materials and ventilation system components to ensure a high quality indoor environment.

Direct Indoor Air Quality Consulting Team for the winning design proposal for the new State of Washington Ecology Department building.

Develop a full-scale ventilation test facility for measuring the performance of air diffusers; ASHRAE 129, Air Change Effectiveness, and ASHRAE 113, Air Diffusion Performance Index.

Develop a chemical emission rate testing laboratory for measuring the chemical emissions from building materials, furnishings, and equipment.

Principle Investigator of the California New Homes Study (2005-2007). Measured ventilation and indoor air quality in 108 new single family detached homes in northern and southern California.

Develop and teach IAQ professional development workshops to building owners, managers, hygienists, and engineers.

Air Pollution Engineer: Earth Metrics Inc., Burlingame, CA, October, 1985 to March, 1987.

Responsible for development of an air pollution laboratory including installation a forced choice olfactometer, tracer gas electron capture chromatograph, and associated calibration facilities. Field team leader for studies of fugitive odor emissions from sewage treatment plants, entrainment of fume hood exhausts into computer chip fabrication rooms, and indoor air quality investigations.

Staff Scientist: Building Ventilation and Indoor Air Quality Program, Energy and Environment Division, Lawrence Berkeley Laboratory, Berkeley, CA. January, 1980 to August, 1984.

Deputy project leader for the Control Techniques group; responsible for laboratory and field studies aimed at evaluating the performance of indoor air pollutant control strategies (i.e. ventilation, filtration, precipitation, absorption, adsorption, and source control).

Coordinated field and laboratory studies of air-to-air heat exchangers including evaluation of thermal performance, ventilation efficiency, cross-stream contaminant transfer, and the effects of freezing/defrosting.

Developed an *in situ* test protocol for evaluating the performance of air cleaning systems and introduced the concept of effective cleaning rate (ECR) also known as the Clean Air Delivery Rate (CADR).

Coordinated laboratory studies of portable and ducted air cleaning systems and their effect on indoor concentrations of respirable particles and radon progeny.

Co-designed an automated instrument system for measuring residential ventilation rates and radon concentrations.

Designed hardware and software for a multi-channel automated data acquisition system used to evaluate the performance of air-to-air heat transfer equipment.

Assistant Chief Engineer: Alta Bates Hospital, Berkeley, CA, October, 1979 to January, 1980.

Responsible for energy management projects involving installation of power factor correction capacitors on large inductive electrical devices and installation of steam meters on physical plant steam lines. Member of Local 39, International Union of Operating Engineers.

Manufacturing Engineer: American Precision Industries, Buffalo, NY, October, 1977 to October, 1979.

Responsible for reorganizing the manufacturing procedures regarding production of shell and tube heat exchangers. Designed customized automatic assembly, welding, and testing equipment. Designed a large paint spray booth. Prepared economic studies justifying new equipment purchases. Safety Director.

Project Engineer: Arcata Graphics, Buffalo, N.Y. June, 1976 to October, 1977.

Responsible for the design and installation of a bulk ink storage and distribution system and high speed automatic counting and marking equipment. Also coordinated material handling studies which led to the purchase and installation of new equipment.

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

- Chairman of SPC-145P, Standards Project Committee - Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment (1991-1992)
- Member SPC-129P, Standards Project Committee - Test Method for Ventilation Effectiveness (1986-97)
  - Member of Drafting Committee
- Member Environmental Health Committee (1992-1994, 1997-2001, 2007-2010)
  - Chairman of EHC Research Subcommittee
  - Member of Man Made Mineral Fiber Position Paper Subcommittee
  - Member of the IAQ Position Paper Committee
  - Member of the Legionella Position Paper Committee
  - Member of the Limiting Indoor Mold and Dampness in Buildings Position Paper Committee
- Member SSPC-62, Standing Standards Project Committee - Ventilation for Acceptable Indoor Air Quality (1992 to 2000)
  - Chairman of Source Control and Air Cleaning Subcommittee
- Chairman of TC-4.10, Indoor Environmental Modeling (1988-92)
  - Member of Research Subcommittee
- Chairman of TC-2.3, Gaseous Air Contaminants and Control Equipment (1989-92)
  - Member of Research Subcommittee

American Society for Testing and Materials (ASTM)

- D-22 Sampling and Analysis of Atmospheres
  - Member of Indoor Air Quality Subcommittee
- E-06 Performance of Building Constructions

American Board of Industrial Hygiene (ABIH)

American Conference of Governmental Industrial Hygienists (ACGIH)

- Bioaerosols Committee (2007-2013)

American Industrial Hygiene Association (AIHA)

Cal-OSHA Indoor Air Quality Advisory Committee

International Society of Indoor Air Quality and Climate (ISIAQ)

- Co-Chairman of Task Force on HVAC Hygiene

U. S. Green Building Council (USGBC)
- Member of the IEQ Technical Advisory Group (2007-2009)
- Member of the IAQ Performance Testing Work Group (2010-2012)

Western Construction Consultants (WESTCON)

PROFESSIONAL CREDENTIALS

Licensed Professional Engineer - Mechanical Engineering

Certified Industrial Hygienist - American Board of Industrial Hygienists

SCIENTIFIC MEETINGS AND SYMPOSIA

Biological Contamination, Diagnosis, and Mitigation, Indoor Air'90, Toronto, Canada, August, 1990.

Models for Predicting Air Quality, Indoor Air'90, Toronto, Canada, August, 1990.

Microbes in Building Materials and Systems, Indoor Air '93, Helsinki, Finland, July, 1993.

Microorganisms in Indoor Air Assessment and Evaluation of Health Effects and Probable Causes, Walnut Creek, CA, February 27, 1997.

Controlling Microbial Moisture Problems in Buildings, Walnut Creek, CA, February 27, 1997.

Scientific Advisory Committee, Roomvent 98, 6th International Conference on Air Distribution in Rooms, KTH, Stockholm, Sweden, June 14-17, 1998.

Moisture and Mould, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Ventilation Modeling and Simulation, Indoor Air '99, Edinburgh, Scotland, August, 1999.

Microbial Growth in Materials, Healthy Buildings 2000, Espoo, Finland, August, 2000.

Co-Chair, Bioaerosols X- Exposures in Residences, Indoor Air 2002, Monterey, CA, July 2002.

Healthy Indoor Environments, Anaheim, CA, April 2003.

Chair, Environmental Tobacco Smoke in Multi-Family Homes, Indoor Air 2008, Copenhagen, Denmark, July 2008.

Co-Chair, ISIAQ Task Force Workshop; HVAC Hygiene, Indoor Air 2002, Monterey, CA, July 2002.

Chair, ETS in Multi-Family Housing: Exposures, Controls, and Legalities Forum, Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

Chair, Energy Conservation and IAQ in Residences Workshop, Indoor Air 2011, Austin, TX, June 6, 2011.

Chair, Electronic Cigarettes: Chemical Emissions and Exposures Colloquium, Indoor Air 2016, Ghent, Belgium, July 4, 2016.

SPECIAL CONSULTATION

Provide consultation to the American Home Appliance Manufacturers on the development of a standard for testing portable air cleaners, AHAM Standard AC-1.

Served as an expert witness and special consultant for the U.S. Federal Trade Commission regarding the performance claims found in advertisements of portable air cleaners and residential furnace filters.

Conducted a forensic investigation for a San Mateo, CA pro se defendant, regarding an alleged homicide where the victim was kidnapped in a steamer trunk. Determined the air exchange rate in the steamer trunk and how long the person could survive.

Conducted *in situ* measurement of human exposure to toluene fumes released during nailpolish application for a plaintiffs attorney pursuing a California Proposition 65 product labeling case. June, 1993.

Conducted a forensic *in situ* investigation for the Butte County, CA Sheriff's Department of the emissions of a portable heater used in the bedroom of two twin one year old girls who suffered simultaneous crib death.

Consult with OSHA on the 1995 proposed new regulation regarding indoor air quality and environmental tobacco smoke.

Consult with EPA on the proposed Building Alliance program and with OSHA on the proposed new OSHA IAQ regulation.

Johnson Controls Audit/Certification Expert Review; Milwaukee, WI. May 28-29, 1997.

Winner of the nationally published 1999 Request for Proposals by the State of Washington to conduct a comprehensive indoor air quality investigation of the Washington State Department of Ecology building in Lacey, WA.

Selected by the State of California Attorney General's Office in August, 2000 to conduct a comprehensive indoor air quality investigation of the Tulare County Court House.

Lawrence Berkeley Laboratory IAQ Experts Workshop: "Cause and Prevention of Sick Building Problems in Offices: The Experience of Indoor Environmental Quality Investigators", Berkeley, California, May 26-27, 2004.

Provide consultation and chemical emission rate testing to the State of California Attorney General's Office in 2013-2015 regarding the chemical emissions from e-cigarettes.

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W.W.Nazaroff, F.J.Offermann, and A.W.Robb, "Automated System for Measuring Air Exchange Rate and Radon Concentration in Houses," *Health Physics*, *45*, pp. 525-537, 1983.

F.J.Offermann, W.J.Fisk, D.T.Grimsrud, B.Pedersen, and K.L.Revzan, "Ventilation Efficiencies of Wall- or Window-Mounted Residential Air-to-Air Heat Exchangers," *ASHRAE Annual Transactions*, *89-2B*, pp 507-527, 1983.

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W.J.Fisk, K.M.Archer, R.E Chant, D. Hekmat, F.J.Offermann, and B.Pedersen, "Performance of Residential Air-to-Air Heat Exchangers During Operation with Freezing and Periodic Defrosts," *ASHRAE Annual Transactions*, *91-1B*, 1984.

F.J.Offermann, R.G.Sextro, W.J.Fisk, D.T.Grimsrud, W.W.Nazaroff, A.V.Nero, and K.L.Revzan, "Control of Respirable Particles with Portable Air Cleaners," *Atmospheric Environment*, Vol. 19, pp.1761-1771, 1985.

R.G.Sextro, F.J.Offermann, W.W.Nazaroff, A.V.Nero, K.L.Revzan, and J.Yater, "Evaluation of Indoor Control Devices and Their Effects on Radon Progeny Concentrations," *Atmospheric Environment*, *12*, pp. 429-438, 1986.

W.J. Fisk, R.K.Spencer, F.J.Offermann, R.K.Spencer, B.Pedersen, R.Sextro, "Indoor Air Quality Control Techniques," *Noyes Data Corporation*, Park Ridge, New Jersey, (1987).

F.J.Offermann, "Ventilation Effectiveness and ADPI Measurements of a Forced Air Heating System," *ASHRAE Transactions* , Volume 94, Part 1, pp 694-704, 1988.

F.J.Offermann and D. Int-Hout "Ventilation Effectiveness Measurements of Three Supply/Return Air Configurations," *Environment International* , Volume 15, pp 585-592 1989.

F.J. Offermann, S.A. Loiselle, M.C. Quinlan, and M.S. Rogers, "A Study of Diesel Fume Entrainment in an Office Building," *IAQ '89*, The Human Equation: Health and Comfort, pp 179-183, ASHRAE, Atlanta, GA, 1989.

R.G.Sextro and F.J.Offermann, "Reduction of Residential Indoor Particle and Radon Progeny Concentrations with Ducted Air Cleaning Systems," submitted to *Indoor Air*, 1990.

S.A.Loiselle, A.T.Hodgson, and F.J.Offermann, "Development of An Indoor Air Sampler for Polycyclic Aromatic Compounds", *Indoor Air* , Vol 2, pp 191-210, 1991.

F.J.Offermann, S.A.Loiselle, A.T.Hodgson, L.A. Gundel, and J.M. Daisey, "A Pilot Study to Measure Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air* , Vol 4, pp 497-512, 1991.

F.J. Offermann, S. A. Loiselle, R.G. Sextro, "Performance Comparisons of Six Different Air Cleaners Installed in a Residential Forced Air Ventilation System," *IAQ'91*, Healthy Buildings, pp 342-350, ASHRAE, Atlanta, GA (1991).

F.J. Offermann, J. Daisey, A. Hodgson, L. Gundell, and S. Loiselle, "Indoor Concentrations and Emission Rates of Polycyclic Aromatic Compounds", *Indoor Air*, Vol 4, pp 497-512 (1992).

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F.J. Offermann and S. A. Loiselle, "Performance of an Air-Cleaning System in an Archival Book Storage Facility," *IAQ'92*, ASHRAE, Atlanta, GA, 1992.

S.B. Hayward, K.S. Liu, L.E. Alevantis, K. Shah, S. Loiselle, F.J. Offermann, Y.L. Chang, L. Webber, "Effectiveness of Ventilation and Other Controls in Reducing Exposure to ETS in Office Buildings," Indoor Air '93, Helsinki, Finland, July 4-8, 1993.

F.J. Offermann, S. A. Loiselle, G. Ander, H. Lau, "Indoor Contaminant Emission Rates Before and After a Building Bake-out," *IAQ'93*, Operating and Maintaining Buildings for Health, Comfort, and Productivity, pp 157-163, ASHRAE, Atlanta, GA, 1993.

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F.J. Offermann, "Professional Malpractice and the Sick Building Investigator," *IAQ'96*, Paths to Better Building Environments, pp 132-136, ASHRAE, Atlanta, GA, 1996.

F.J. Offermann, "Standard Method of Measuring Air Change Effectiveness," *Indoor Air*, Vol 1, pp.206-211, 1999.

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K.S. Liu, L.E. Alevantis, and F.J. Offermann, "A Survey of Environmental Tobacco Smoke Controls in California Office Buildings", *Indoor Air*, Vol 11, pp. 26-34, 2001.

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F. J. Offermann, J.P. Robertson, and T. Webster, "The Impact of Tracer Gas Mixing on Airflow Rate Measurements in Large Commercial Fan Systems", Indoor Air 2002, Monterey, California, July 2002.

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NV, October 1-2, 1992; New York City, NY, October 26-27, 1992, Las Vegas, NV, March 18-19, 1993; Lake Tahoe, CA, July 14-15, 1994; Las Vegas, NV, April 3-4, 1995; Lake Tahoe, CA, July 11-12, 1996; Miami, Fl, December 9-10, 1996.

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"Techniques for Airborne Disease Control", EPRI Healthcare Initiative Symposium; San Francisco, CA; June 7, 1994.

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"Environmental Engineer: What Is It?", Monte Vista High School Career Day; April 10, 1997.

"Indoor Environment Controls: What's Hot and What's Not", Shaklee Corporation; San Francisco, CA, July 15, 1997.

"Measurement of Ventilation System Performance Parameters in the US EPA BASE Study", Healthy Buildings/IAQ'97, Washington, DC, September 29, 1997.

"Operations and Maintenance for Healthy and Comfortable Indoor Environments", PASMA; October 7, 1997.

"Designing for Healthy and Comfortable Indoor Environments", Construction Specification Institute, Santa Rosa, CA, November 6, 1997.

"Ventilation System Design for Good IAQ", University of Tulsa 10th Annual Conference, San Francisco, CA, February 25, 1998.

"The Building Shell", Tools For Building Green Conference and Trade Show, Alameda County Waste Management Authority and Recycling Board, Oakland, CA, February 28, 1998.

"Identifying Fungal Contamination Problems In Buildings", The City of Oakland Municipal Employees, Oakland, CA, March 26, 1998.

"Managing Indoor Air Quality in Schools: Staying Out of Trouble", CASBO, Sacramento, CA, April 20, 1998.

"Indoor Air Quality", CSOOC Spring Conference, Visalia, CA, April 30, 1998.

"Particulate and Gas Phase Air Filtration", ACGIH/OSHA, Ft. Mitchell, KY, June 1998.

"Building Air Quality Facts and Myths", The City of Oakland / Alameda County Safety Seminar, Oakland, CA, June 12, 1998.

"Building Engineering and Moisture", Building Contamination Workshop, University of California Berkeley, Continuing Education in Engineering and Environmental Management, San Francisco, CA, October 21-22, 1999.

"Identifying and Mitigating Mold Contamination in Buildings", Western Construction Consultants Association, Oakland, CA, March 15, 2000; AIG Construction Defect Seminar, Walnut Creek, CA, May 2, 2001; City of Oakland Public Works Agency, Oakland, CA, July 24, 2001; Executive Council of Homeowners, Alamo, CA, August 3, 2001.

"Using the EPA BASE Study for IAQ Investigation / Communication", Joint Professional Symposium 2000, American Industrial Hygiene Association, Orange County & Southern California Sections, Long Beach, October 19, 2000.

"Ventilation," Indoor Air Quality: Risk Reduction in the 21st Century Symposium, sponsored by the California Environmental Protection Agency/Air Resources Board, Sacramento, CA, May 3-4, 2000.

"Workshop 18: Criteria for Cleaning of Air Handling Systems", Healthy Buildings 2000, Espoo, Finland, August 2000.

"Closing Session Summary: 'Building Investigations' and 'Building Design & Construction', Healthy Buildings 2000, Espoo, Finland, August 2000.

"Managing Building Air Quality and Energy Efficiency, Meeting the Standard of Care", BOMA, MidAtlantic Environmental Hygiene Resource Center, Seattle, WA, May 23rd, 2000; San Antonio, TX, September 26-27, 2000.

"Diagnostics & Mitigation in Sick Buildings: When Good Buildings Go Bad," University of California Berkeley, September 18, 2001.

"Mold Contamination: Recognition and What To Do and Not Do", Redwood Empire Remodelers Association; Santa Rosa, CA, April 16, 2002.

"Investigative Tools of the IAQ Trade", Healthy Indoor Environments 2002; Austin, TX; April 22, 2002.

"Finding Hidden Mold: Case Studies in IAQ Investigations", AIHA Northern California Professionals Symposium; Oakland, CA, May 8, 2002.

"Assessing and Mitigating Fungal Contamination in Buildings", Cal/OSHA Training; Oakland, CA, February 14, 2003 and West Covina, CA, February 20-21, 2003.

"Use of External Containments During Fungal Mitigation", Invited Speaker, ACGIH Mold Remediation Symposium, Orlando, FL, November 3-5, 2003.

Building Operator Certification (BOC), 106-IAQ Training Workshops, Northwest Energy Efficiency Council; Stockton, CA, December 3, 2003; San Francisco, CA, December 9, 2003; Irvine, CA, January 13, 2004; San Diego, January 14, 2004; Irwindale, CA, January 27, 2004; Downey, CA, January 28, 2004; Santa Monica, CA, March 16, 2004; Ontario, CA, March 17, 2004; Ontario, CA, November 9, 2004, San Diego, CA, November 10, 2004; San Francisco, CA, November 17, 2004; San Jose, CA, November 18, 2004; Sacramento, CA, March 15, 2005.

"Mold Remediation: The National QUEST for Uniformity Symposium", Invited Speaker, Orlando, Florida, November 3-5, 2003.

"Mold and Moisture Control", Indoor Air Quality workshop for The Collaborative for High Performance Schools (CHPS), San Francisco, December 11, 2003.

"Advanced Perspectives In Mold Prevention & Control Symposium", Invited Speaker, Las Vegas, Nevada, November 7-9, 2004.

"Building Sciences: Understanding and Controlling Moisture in Buildings", American Industrial Hygiene Association, San Francisco, CA, February 14-16, 2005.

"Indoor Air Quality Diagnostics and Healthy Building Design", University of California Berkeley, Berkeley, CA, March 2, 2005.

"Improving IAQ = Reduced Tenant Complaints", Northern California Facilities Exposition, Santa Clara, CA, September 27, 2007.

"Defining Safe Building Air", Criteria for Safe Air and Water in Buildings, ASHRAE Winter Meeting, Chicago, IL, January 27, 2008.

"Update on USGBC LEED and Air Filtration", Invited Speaker, NAFA 2008 Convention, San Francisco, CA, September 19, 2008.

"Ventilation and Indoor air Quality in New California Homes", National Center of Healthy Housing, October 20, 2008.

"Indoor Air Quality in New Homes", California Energy and Air Quality Conference, October 29, 2008.

"Mechanical Outdoor air Ventilation Systems and IAQ in New Homes", ACI Home Performance Conference, Kansas City, MO, April 29, 2009.

"Ventilation and IAQ in New Homes with and without Mechanical Outdoor Air Systems", Healthy Buildings 2009, Syracuse, CA, September 14, 2009.

"Ten Ways to Improve Your Air Quality", Northern California Facilities Exposition, Santa Clara, CA, September 30, 2009.

"New Developments in Ventilation and Indoor Air Quality in Residential Buildings", Westcon meeting, Alameda, CA, March 17, 2010.

"Intermittent Residential Mechanical Outdoor Air Ventilation Systems and IAQ", ASHRAE SSPC 62.2 Meeting, Austin, TX, April 19, 2010.

"Measured IAQ in Homes", ACI Home Performance Conference, Austin, TX, April 21, 2010.

"Respiration: IEQ and Ventilation", AIHce 2010, How IH Can LEED in Green buildings, Denver, CO, May 23, 2010.

"IAQ Considerations for Net Zero Energy Buildings (NZEB)", Northern California Facilities Exposition, Santa Clara, CA, September 22, 2010.

"Energy Conservation and Health in Buildings", Berkeley High SchoolGreen Career Week, Berkeley, CA, April 12, 2011.

"What Pollutants are Really There ?", ACI Home Performance Conference, San Francisco, CA, March 30, 2011.

"Energy Conservation and Health in Residences Workshop", Indoor Air 2011, Austin, TX, June 6, 2011.

"Assessing IAQ and Improving Health in Residences", US EPA Weatherization Plus Health, September 7, 2011.

"Ventilation: What a Long Strange Trip It's Been", Westcon, May 21, 2014.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposures", Indoor Air 2014, Hong Kong, July, 2014.

"Infectious Disease Aerosol Exposures With and Without Surge Control Ventilation System Modifications", Indoor Air 2014, Hong Kong, July, 2014.

"Chemical Emissions from E-Cigarettes", IMF Health and Welfare Fair, Washington, DC, February 18, 2015.

"Chemical Emissions and Health Hazards Associated with E-Cigarettes", Roswell Park Cancer Institute, Buffalo, NY, August 15, 2014.

"Formaldehyde Indoor Concentrations, Material Emission Rates, and the CARB ATCM", Harris Martin's Lumber Liquidators Flooring Litigation Conference, WQ Minneapolis Hotel, May 27, 2015.

"Chemical Emissions from E-Cigarettes: Direct and Indirect Passive Exposure", FDA Public Workshop: Electronic Cigarettes and the Public Health, Hyattsville, MD June 2, 2015.

"Creating Healthy Homes, Schools, and Workplaces", Chautauqua Institution, Athenaeum Hotel, August 24, 2015.

"Diagnosing IAQ Problems and Designing Healthy Buildings", University of California Berkeley, Berkeley, CA, October 6, 2015.

"Diagnosing Ventilation and IAQ Problems in Commercial Buildings", BEST Center Annual Institute, Lawrence Berkeley National Laboratory, January 6, 2016.

"A Review of Studies of Ventilation and Indoor Air Quality in New Homes and Impacts of Environmental Factors on Formaldehyde Emission Rates From Composite Wood Products", AIHce2016, May, 21-26, 2016.

"Admissibility of Scientific Testimony", Science in the Court, Proposition 65 Clearinghouse Annual Conference, Oakland, CA, September 15, 2016.

"Indoor Air Quality and Ventilation", ASHRAE Redwood Empire, Napa, CA, December 1, 2016.

EXHIBIT B

SMITH ENGINEERING & MANAGEMENT

May 5, 2020

Ms. Rebecca Davis
Lozeau Drury
1939 Harrison Street, Suite 150
Oakland, CA 94612

Subject: The Bowery Project, Santa Ana (SCH # 2019080011)
P20008

Dear Ms. Davis:

At your request, I have reviewed the Final Environmental Impact Report (the "FEIR" for The Bowery Mixed Use Project (the "Project ") in the City of Santa Ana (the "City"). I have also reviewed the Draft Environmental Impact Report (the "DEIR") for the Project and the Appendices supporting both documents. My review is specific to Traffic and Circulation.

My qualifications to perform this review include registration as a Civil and Traffic Engineer in California and over 50 years professional consulting engineering practice in the traffic and transportation industry. I have both prepared and performed adequacy reviews of numerous transportation and circulation sections of environmental impact reports prepared under the California Environmental Quality Act. My professional resume is attached. Findings of my review are summarized below. 27

Excessive Deduction Of Traffic Credit For Prior Use of Project Site

Trip credits taken for prior use of the site are excessive from several perspectives. First, the traffic analysis takes trip credit for the entire 212,121 square feet of building area at full occupancy in an industrial park use. However, by 2017, well before the time of circulation of the Notice of Preparation (NOP) and the time the existing condition traffic counts were taken, the industrial park

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use had terminated, a considerable portion of the site was vacant and the non-vacant portions were mostly occupied by uses that generate trips at considerably lower trip rates than industrial park use.

Table 1 – Trip Rates Based on Prior Land Use

Land Use Category	Use Size (sq. ft.)	Daily Trips*	AM Peak*	PM Peak*
Warehouse	119,121	279	27	31
Research & Development	5,000	56	2	2
Homeless Shelter	30,000	negligible	0	0
Vacant Space	53,000	0	0	0
Total trips from existing uses	**207,121***	**335**	**29**	**33**
EIR Baseline based on Industrial Park Use	212,121	1,326	159	159
Percent increase when EIR baseline is compared to Existing Use baseline		**395%**	**540%**	**481%**

27

The DEIR lists the existing uses of the site as 119,121 square foot of warehouse and distribution (*Trip Generation, 10th Edition* Land Use Category 150), 5,000 square feet of Research and Development (*Trip Generation, 10th Edition* Land Use Category 760), 53,000 square feet vacant and 30,000 square feet in use as a temporary homeless shelter. The 119,121 square feet of warehouse would generate 1.74 trips per thousand square feet daily, .17 trips per thousand in the AM peak hour, and .19 trips per thousand in the PM peak hour. This would be 207 trips daily, 20 trips in the AM Peak and 23 trips in the PM peak, or, adjusting for passenger car equivalences (PCEs) for heavy truck percentages at this use per the Fontana Truck Study or SCAQMD, 279 daily, 27 AM peak and 31 PM peak passenger car equivalent trips. The 5,000 square feet of Research and Development facility would generate 11.26 trips per thousand square feet daily, 0.42 trips per thousand in the AM peak and 0.49 trips per thousand in the pm peak. This would amount to 56 trips daily, 2 trips in the am peak and 2 trips in the PM peak. The served population at the homeless shelter generally do not generate any vehicle trips and the staff generally has shifts involving commutes outside of commute peak hours, so they do not generate any peak hour trips and an unknown but negligible number of daily trips. The vacant space generates essentially zero vehicle trips. So the maximum trip generation of the *existing* use at the time of the NOP and the when the existing traffic baseline data was collected (not the long term prior use that was previously vacated) is about 29

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trips in PCEs in the AM peak hour and 33 PCE trips in the PM peak hour. This is less than 21 percent of the 159 PCE trip deduction for traffic of existing use allowed from the Project trip generation per DEIR Table 5.14-5. The allowance of an undeserved extra 126 trip deduction amounts to an understatement of almost 21 percent from the net PM peak trip generation of 604 trips for the Project assumed in the analysis. This flaw alone is sufficient to significantly alter findings of impact and mitigation requirements. 27

The 18,000 Square Feet of Unspecified Retail in the Project Is Not a Shopping Center

The DEIR estimates the trip generation of the 18,000 square feet of unspecified retail in the Project at average rates for Land Use Category 820, Shopping Center per *Trip Generation,10th Edition*. However, 18,000 square feet of retail is not a shopping center. Shopping centers only generate trips at the average rates employed in the subject analysis when they reach a size of about 400,000 square feet of floor area. Small footprint retail normally generates trips at much higher peak and daily rates per thousand square feet than the shopping center average. The 18,000 square feet of retail in the Project is about the typical size of a boutique grocery like a Trader Joe's or a Walgreens Pharmacy. A Supermarket (Land Use Category 850) generates trips at rates of 106.78 trips per thousand square feet daily, 3.82 per thousand in the AM peak hour and 9.24 per thousand in the PM peak hour. A Pharmacy with no drive-up window (Land Use Category 880) generates trips at rates of 90.08 trips per thousand square feet daily, 2.94 per thousand in the AM peak and 8.51 per thousand in the PM peak. This starkly contrasts with the Shopping center rates of 37.75 trips per thousand square feet daily, 0.94 per thousand in the AM peak and 3.81 per thousand in the PM peak. 28

Table 2 – Trip Rates Per 1,000 Square Feet Based on Land Use Category

Land Use Category	Daily	AM Peak	PM Peak
Supermarket	106.78	3.82	9.24
Pharmacy	90.08	2.94	8.51
Shopping Center	37.75	0.94	3.81

If the DEIR had analyzed the 18,000 square feet of retail as a supermarket, it would generate 1922 gross trips daily, 69 gross AM peak trips and 166 gross PM peak trips. Analyzed as a Category 880 Pharmacy, the same floor area of retail generates 1621 gross daily trips, 53 in the AM peak and 153 in the PM peak. These are significantly higher than the 680 daily, 17 AM peak and 69 PM peak gross trips the DEIR predicts for this floor area as a so called shopping center.

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Table 3 – Trip Rates for 18,000 Square Feet of Retail Based on Land Use Category

Land Use Category	Daily	AM Peak	PM Peak
Supermarket	1,922	69	166
Pharmacy	1,622	53	153
Shopping Center	680	17	69

With the same percentage of internal and attracted passerby trips the DEIR assumes for the shopping center use category, the boutique supermarket generates 882 more net daily, 28 more net AM peak and 28 more net PM peak trips than the improperly applied shopping center category. With the same percentage of internal and attracted passerby trips the DEIR assumes for the shopping center use category, the pharmacy generates 1668 more net daily, 15 more net AM peak and 13 more net PM peak trips than the improperly applied shopping center category. While these differences, particularly in the peak hours, may seem small, when added to adjustment of the improper credit for the prior use, take on cumulative significance. 28

Excessive Assumptions of Trip Reductions Due To Internalization and Passer-by Attraction

The DEIR assumes that internal trips and attracted passers-by will account for 31.5 percent of the Project's gross trip generation in the AM traffic peak hour and 42 percent of the Project's gross trip generation in the PM traffic peak hour. Coupled with the improper deductions taken for the abandoned prior use of the site, deductions eliminate 47.2 percent of the gross AM peak trip generation and 54 percent of the gross PM peak trip generation. The analysis appears to have assumed internalization and attracted passer-by rates at maximum percentages of the ranges observed in *Trip Generation Handbook, 3rd* Edition. Making a series of assumptions, all the most favorable to the Project possible, is not consistent with the good faith effort to disclose impact that CEQA demands. The analysis should be recompiled with more moderate percentage assumptions for internalization and passer-by attraction. 29

Consequences of Improper Descriptions of Roadway Cross Sections Is Not Analyzed

In a comment now labeled A6-5 in the FEIR response, the Orange County Transportation Agency identifies several roadways where the DEIR's description of the roadway cross-section is in error. In response, the FEIR corrects the text of the relevant table but fails to analyze whether the changes have any consequential impact on the outcomes of impact analysis. It would seem that 30

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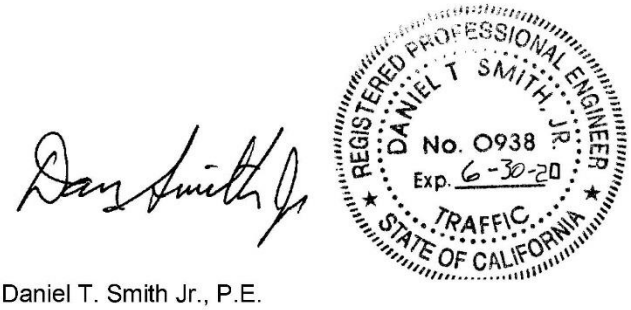
overstating the number of lanes on several roadways could have consequences for impact and mitigation needs. 30

Conclusion

This concludes my comments on the Bowery Mixed Use Project FEIR. Because the DEIR improperly deducted trips for a prior use of the Project site that was not present when the NOP was circulated nor when baseline traffic counts for the analysis were taken, because it unreasonably treats 18,000 square feet of unspecified retail commercial as a "shopping center" rather than a logical specific use or range of uses that would occupy a retail floor area of this size and because the analysis consistently makes assumptions most favorable to the Project with regard to trip internalization and passer-by attraction, the FEIR should not be certified, the traffic analysis should be redone and the environmental document should be recirculated in "draft" status. 31

Sincerely,

Smith Engineering & Management
A California Corporation



Daniel T. Smith Jr., P.E.
President

Attachment 1
Resume of Daniel T. Smith Jr., P.E.

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SMITH ENGINEERING & MANAGEMENT

DANIEL T. SMITH, Jr.
President

EDUCATION

Bachelor of Science, Engineering and Applied Science, Yale University, 1967
Master of Science, Transportation Planning, University of California, Berkeley, 1968

PROFESSIONAL REGISTRATION

California No. 21913 (Civil)
California No. 938 (Traffic)
Nevada No. 7969 (Civil)
Washington No. 29337 (Civil)
Arizona No. 22131 (Civil)

PROFESSIONAL EXPERIENCE

Smith Engineering & Management, 1993 to present. President.
DKS Associates, 1979 to 1993. Founder, Vice President, Principal Transportation Engineer.
De Leuw, Cather & Company, 1968 to 1979. Senior Transportation Planner.
Personal specialties and project experience include:

Litigation Consulting. Provides consultation, investigations and expert witness testimony in highway design, transit design and traffic engineering matters including condemnations involving transportation access issues; traffic accidents involving highway design or traffic engineering factors; land use and development matters involving access and transportation impacts; parking and other traffic and transportation matters.

Urban Corridor Studies/Alternatives Analysis. Principal-in-charge for State Route (SR) 102 Feasibility Study, a 35-mile freeway alignment study north of Sacramento. Consultant on I-280 Interstate Transfer Concept Program, San Francisco, an AA/EIS for completion of I-280, demolition of Embarcadero freeway, substitute light rail and commuter rail projects. Principal-in-charge, SR 238 corridor freeway/expressway design/environmental study, Hayward (Calif.) Project manager, Sacramento Northeast Area multi-modal transportation corridor study. Transportation planner for I-80N West Terminal Study, and Harbor Drive Traffic Study, Portland, Oregon. Project manager for design of surface segment of Woodward Corridor LRT, Detroit, Michigan. Directed staff on I-80 National Strategic Corridor Study (Sacramento-San Francisco), US 101-Sonoma freeway operations study, SR 92 freeway operations study, I-880 freeway operations study, SR 152 alignment studies, Sacramento RTD light rail systems study, Tasman Corridor LRT AA/EIS, Fremont-Warm Springs BART extension plan/EIR, SRs 70/99 freeway alternatives study, and Richmond Parkway (SR 93) design study.

Area Transportation Plans. Principal-in charge for transportation element of City of Los Angeles General Plan Framework, shaping nations largest city two decades into 21'st century. Project manager for the transportation element of 300-acre Mission Bay development in downtown San Francisco. Mission Bay involves 7 million gsf office/commercial space, 8,500 dwelling units, and community facilities. Transportation features include relocation of commuter rail station; extension of MUNI-Metro LRT; a multi-modal terminal for LRT, commuter rail and local bus; removal of a quarter mile elevated freeway; replacement by new ramps and a boulevard; an internal roadway network overcoming constraints imposed by an internal tidal basin; freeway structures and rail facilities; and concept plans for 20,000 structured parking spaces. Principal-in-charge for circulation plan to accommodate 9 million gsf of office/commercial growth in downtown Bellevue (Wash.). Principal-in-charge for 64 acre, 2 million gsf multi-use complex for FMC adjacent to San Jose International Airport. Project manager for transportation element of Sacramento Capitol Area Plan for the state governmental complex, and for Downtown Sacramento Redevelopment Plan. Project manager for Napa (Calif.) General Plan Circulation Element and Downtown Riverfront Redevelopment Plan, on parking program for downtown Walnut Creek, on downtown transportation plan for San Mateo and redevelopment plan for downtown Mountain View (Calif.), for traffic circulation and safety plans for California cities of Davis, Pleasant Hill and Hayward, and for Salem, Oregon.

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Transportation Centers. Project manager for Daly City Intermodal Study which developed a $7 million surface bus terminal, traffic access, parking and pedestrian circulation improvements at the Daly City BART station plus development of functional plans for a new BART station at Colma. Project manager for design of multi-modal terminal (commuter rail, light rail, bus) at Mission Bay, San Francisco. In Santa Clarita Long Range Transit Development Program, responsible for plan to relocate system's existing timed-transfer hub and development of three satellite transfer hubs. Performed airport ground transportation system evaluations for San Francisco International, Oakland International, Sea-Tac International, Oakland International, Los Angeles International, and San Diego Lindberg.

Campus Transportation. Campus transportation planning assignments for UC Davis, UC Berkeley, UC Santa Cruz and UC San Francisco Medical Center campuses; San Francisco State University; University of San Francisco; and the University of Alaska and others. Also developed master plans for institutional campuses including medical centers, headquarters complexes and research & development facilities.

Special Event Facilities. Evaluations and design studies for football/baseball stadiums, indoor sports arenas, horse and motor racing facilities, theme parks, fairgrounds and convention centers, ski complexes and destination resorts throughout western United States.

Parking. Parking programs and facilities for large area plans and individual sites including downtowns, special event facilities, university and institutional campuses and other large site developments; numerous parking feasibility and operations studies for parking structures and surface facilities; also, resident preferential parking .

Transportation System Management & Traffic Restraint. Project manager on FHWA program to develop techniques and guidelines for neighborhood street traffic limitation. Project manager for Berkeley, (Calif.), Neighborhood Traffic Study, pioneered application of traffic restraint techniques in the U.S. Developed residential traffic plans for Menlo Park, Santa Monica, Santa Cruz, Mill Valley, Oakland, Palo Alto, Piedmont, San Mateo County, Pasadena, Santa Ana and others. Participated in development of photo/radar speed enforcement device and experimented with speed humps. Co-author of Institute of Transportation Engineers reference publication on neighborhood traffic control.

Bicycle Facilities. Project manager to develop an FHWA manual for bicycle facility design and planning, on bikeway plans for Del Mar, (Calif.), the UC Davis and the City of Davis. Consultant to bikeway plans for Eugene, Oregon, Washington, D.C., Buffalo, New York, and Skokie, Illinois. Consultant to U.S. Bureau of Reclamation for development of hydraulically efficient, bicycle safe drainage inlets. Consultant on FHWA research on effective retrofits of undercrossing and overcrossing structures for bicyclists, pedestrians, and handicapped.

MEMBERSHIPS

Institute of Transportation Engineers Transportation Research Board

PUBLICATIONS AND AWARDS

Residential Street Design and Traffic Control, with W. Homburger *et al.* Prentice Hall, 1989.

Co-recipient, Progressive Architecture Citation, *Mission Bay Master Plan*, with I.M. Pei WRT Associated, 1984.

Residential Traffic Management, State of the Art Report, U.S. Department of Transportation, 1979.

Improving The Residential Street Environment, with Donald Appleyard et al., U.S. Department of Transportation, 1979.

Strategic Concepts in Residential Neighborhood Traffic Control, International Symposium on Traffic Control Systems, Berkeley, California, 1979.

Planning and Design of Bicycle Facilities: Pitfalls and New Directions, Transportation Research Board, Research Record 570, 1976.

Co-recipient, Progressive Architecture Award, *Livable Urban Streets, San Francisco Bay Area and London*, with Donald Appleyard, 1979.

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EXHIBIT C

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

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

May 11, 2020

Rebecca Davis
Lozeau | Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94618

Subject: Comments on the Final Impact Report for the Bowery Mixed Use Project

Dear Ms. Davis:

I have reviewed the May 2020 Final Impact Report for the Bowery Mixed Use Project ("Project") in Santa Ana, California for impacts related to Hazards and Hazardous Waste. Prior to Project approval, the applicant needs to engage California Department of Toxic Substances Control (DTSC) in a voluntary cleanup agreement to ensure adequate contaminated soil cleanup at the Project site. The Project site contains approximately 900 cubic yards of TPH contaminated soils above residential screening levels that will require excavation and disposal (FEIR, p. 2-7). Past land uses at the Project site, according a Phase I and two Phase II environmental site assessments, include Ricoh thermal paper processing and toner manufacturing operations.

Mitigation Measure HAZ-1 requires a soil management plan to be used during construction to guide the removal and disposal of the areas of TPH-impacted soil. On its own, a soil management plan is insufficient. To ensure the adequacy and the health-protectiveness of the cleanup, engagement of the DTSC is necessary. DTSC engagement should be formalized through a voluntary cleanup agreement and the cleanup of the Project site should follow an assessment and cleanup program directed by DTSC. 32

DTSC itself, in commenting on the Project DEIR, said:

> "Please note that all environmental investigations, sampling and/or remediation for the project Site should be conducted under a workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. Clarify in this section that a Removal Action Workplan (RAW) or a Remedial Action Plan (RAP) would be prepared and specify the oversight agency to review and approve the RAW or RAP"
>
> "Please note that a land use covenant may be required for the Project Site if both soil and groundwater cannot be remediated to meet cleanup goals for residential use." (Final EIR, p. 2-3).

In the response to this comment, the FEIR states (p. 2-8):

> Mitigation Measure HAZ-1 requires approval of a Soil Management Plan (SMP) to ensure that the contaminated soils would be excavated and removed during Project excavation and grading activities pursuant to the regulations of DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the Orange County Health Care Agency (OCHCA). The SMP required by Mitigation Measure HAZ-1 would meet the same intent and requirements as the Removal Action Workplan or a Remedial Action Plan mentioned in this comment.

A soil management plan is not an instrument that is used by DTSC or any other regulatory agency in assessing the need for cleanups or in planning for cleanups to be health protective. The soil management plan, as described in Mitigation Measure HAZ-1, is to include

- A certified hazardous waste hauler to remove all potentially hazardous soils
- Excavation and removal of contaminated soils
- Sampling of soil during excavation to ensure that all contaminated soils are removed, and that residential Environmental Screening Levels (ESLs) for residential uses are not exceeded.
- Subsurface materials exposed during construction activities that appear suspect of contamination, either from visual staining or suspect odors, shall require immediate cessation of excavation activities and soils suspected of contamination shall be tested.
- If contamination is found to be present per the California Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB) ESLs for residential uses, it shall be transported and disposed of per California Hazardous Waste Regulations
- Preparation of a Health and Safety Plan.

32

This is in no way would "meet the same intent and requirements as the Removal Action Workplan or a Remedial Action Plan" as asserted in the FEIR in response to the DTSC as cited above. For example, a removal action work plan, as recommended by DTSC in their DEIR response as cited above, shall:[1]

- Identify the nature and the extent of contaminants
- Describe the health effects of the contaminants
- Perform a health risk evaluation
- Identify cleanup goals
- Perform an engineering evaluation and cost analysis
- Compare remedial alternatives
- Describe the selected remedy
- Allow for public participation
- Provide dust control
- Conduct confirmatory sampling.

Given the complex history of the Project site, we recommend entry into a voluntary cleanup program with DTSC.[2] DTSC oversight will ensure the implementation of the step-wise approach of a remedial

[1] https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMBR_FORM_RAW_Template.pdf
[2] https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/07/eo-95-006-pp.pdf

2

action workplan, to include a health risk assessment, a critical step for implementation of a remedy that is protective of the health of future Project residents.

Regulatory review of the cleanup at the Project site is essentially required under the terms of the site closure issued by the Santa Ana Regional Water Quality Control Board (SARWQCB) who, in their August 13, 2010 No Further Action Letter, stated:

> "If land use changes at the site, a review of the corrective actions may be warranted if on site excavation or construction expose contaminated soil or if changes in land use indicates that the residual contamination at the site poses a risk to site occupants."[3]

32

The Project will change the land use from commercial/industrial to residential and the Project will involve excavation of contaminated soils; therefore, according to the No Further Action Letter, the SARWQCB may need to review the plan for removal of the 900 cubic yards of TPH-contaminated soil outlined in the FEIR. No record of notification of the SARWQCB of the intent to clean up contaminated soils for a change to residential land use was provided in the DEIR or the FEIR.

Engagement of DTSC, rather than the SARWQCB, is recommended to provide for proper oversight of a health risk assessment. DTSC has professionals on staff capable of the review of human health risk assessments.

Finally, the issue of encountering contaminated groundwater during Project excavation must be considered. The FEIR states (p. 2-8):

> "it is described on page 5.5-5 in Section 5.5, Geology and Soils, of the Draft EIR that based on onsite borings the depth of groundwater is in the range of 24 to 33 feet below ground surface (bgs). This depth of groundwater would not impact persons onsite during operation of the proposed mixed-uses. Also, the Draft EIR page 3-19, Section 3.0, Project Description, describes that excavation and grading during project construction would be a minimum of 5 feet below the bottom of the building foundations. As the depth of groundwater currently ranges between 24 to 33 feet, project excavation of approximately 5 feet below building foundations would not result in encountering groundwater. Thus, construction workers would also not be in contact with, and therefore impacted by, contaminated groundwater. Therefore, the potential risk to future receptors associated with groundwater contamination would be less than significant."

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The assertion in the DEIR that groundwater is in the range of 24 to 33 feet deep contradicts with the case closure summary attached to the SARWQCB No Further Action letter for the Project site which states groundwater is 5.67 to 13 feet deep:[4]

[3] https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/2435468375/NFA_RicohElec_MedranoPedro.pdf, p. 4
[4] https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/2435468375/NFA_RicohElec_MedranoPedro.pdf, p. 2

III. Release and Site Characterization Information

Cause and type of release: Unknown					
Site characterization complete?	Moderate to low concentration of petroleum hydrocarbons were detected in the soil and groundwater to the south and southwest of the UST. The affected soil and groundwater was not defined to non-detect.		Date approved by agency		
Monitoring wells installed?	Yes	Number	11	Proper screen interval?	Yes
Deepest GW depth	13 feet		Shallowest GW depth		5.67 feet

if Project excavation is "a minimum of 5 feet below the bottom of building foundations" (FEIR, p. 2-8), groundwater is likely to be encountered if found at depths as shallow as 5.67 feet as stated by the SARWQCB in the table above. The FEIR needs to plan for protection of construction workers who may encounter contaminated groundwater when excavation is conducted. The FEIR also needs to state how the Project would comply with the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Order No. 2003-0003-DWQ) or the De Minimis Waste Discharge Requirements for the Santa Ana Region (Order No. R82015-0004, NPDES No. CAG998001). 33

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

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

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

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Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

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

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

Education:

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

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

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

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

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

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

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

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

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

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

Executive Director:

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

Hydrogeology:

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

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

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

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

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

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

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

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

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

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

Policy:

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

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

Geology:

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

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

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

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

Teaching:

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

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

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

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

EXHIBIT D

California Regional Water Quality Control Board
Santa Ana Region

3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 • FAX (951) 781-6288 • TDD (951) 782-3221
www.waterboards.ca.gov/santaana

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

August 13, 2010

Pedro Medrano
Ricoh Electronics
1100 Valencia Avenue
Tustin, Ca 92780

SUBJECT: No Further Action
Ricoh Electronics Facility
2320 Redhill, Santa Ana
LUSTIS Case Number 083000552T

Dear Mr. Medrano:

This letter confirms the completion of site investigation and remedial action for the underground storage tanks formerly located at the above described location. Enclosed is the Case Closure Summary for the referenced site for your records.

Based on the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721(e).

Please telephone Carl Bernhardt of our Underground Storage Tank Section at 951-782-4495 or by electronic mail at cbernardt@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Kurt V. Berchtold
Executive Officer

Enclosures: Case Closure Summary

Addressee: Pedro Medrano, Ricoh Pedro_A_Medrano@rei.ricoh.com

cc with enclosures: Diana Plotkin, Karney Property Mgmt: Diana_Plotkin@karney.net
Mark Gilmartin, Law Offices: mbgilmartin@earthlink.net
Anri Suzuki, Ricoh Electronics: Anri_Suzuki@rei.ricoh.com
Jay Neuhaus, Mactec: jrneuhaus@mactec.com
David Rice, SWRCB: drice@waterboards.ca.gov
Diana Conkle, SWRCB: dconkle@waterboards.ca.gov
Eric Floyd, Wayne Perry, Inc: efloyd@wpi.com

CAB/ ricoh closure letter

CASE CLOSURE SUMMARY
Leaking Underground Fuel Tank Program

I. Agency Information

Agency Name	California Regional Water Quality Control Board Santa Ana Region	Staff	Carl A. Bernhardt
Address	3737 Main St. Suite 500	Title	Engineering Geologist
City/State/ Zip	Riverside CA 92501-3348	Phone	(951) 782-4495, Main # 782-4130

II. Case Information

Site Name	Ricoh Electronics, Inc.		
Location	2320 Redhill Avenue, Santa Ana		
Regional Board Case #	083000552T	Local Agency Case #	
Responsible Parties	Address	Phone Number	
Ricoh Electronics Contact: Mr. Jeff Simko	1100 Valencia Avenue Tustin, CA 92780		

Tank No.	Size in Gallons	Contents	Closed in place/ Removed	Date
1	30,000	Isoparaffin aliphatic hydrocarbons	Removed	September 1998
2	50,000	Isoparaffin aliphatic hydrocarbons	Removed	July 1998
3	50,000	Isoparaffin aliphatic hydrocarbons	Removed	September 1998
5	40,000	Isoparaffin aliphatic hydrocarbons	Removed	October 2006

III. Release and Site Characterization Information

Cause and type of release: Unknown					
Site characterization complete?	Moderate to low concentration of petroleum hydrocarbons were detected in the soil and groundwater to the south and southwest of the UST. The affected soil and groundwater was not defined to non-detect.		Date approved by agency		
Monitoring wells installed?	Yes	Number	11	Proper screen interval?	Yes
Deepest GW depth	13 feet		Shallowest GW depth		5.67 feet
Groundwater, most sensitive current use: Municipal					
Are drinking water wells affected?	No	Aquifer name	Orange County Groundwater Management Zone		
Is surface water affected?	No	Nearest SW name	San Diego Creek		
Off-site beneficial use Impacts (addresses/locations): None					
Report(s) on file?	Yes	Where is/are report(s) filed?	SARWQCB, 3737 Main Street, Suite 500 Riverside, CA 92501		

Case Closure Summary
Site Name: Ricoh Electronics Case # 083000552T

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount	Action (treatment, disposal)/ Destination	Date
Soil	Unknown	Excavated and disposed off-site	July – Sept. 1998
Soil	Unknown	Excavated and disposed off-site	Sept. 2006
Groundwater	2,160,000 gallons	Extracted and treated using GAC	Aug. 1988 – May 1999
Isopar	4,371 gallons	Extracted and disposed off-site	Feb. 1988 – May 1992
Excavation Water	100,000 gallons	Extracted and treated using GAC	July – Sept. 1998

III. Release and Site Characterization Information (Continued)

Maximum Documented Contaminant Concentration - Before and After Cleanup									
Contaminant	Soil (mg/kg)				Groundwater (ug/l)				
	1986	1998	2006	2008	Nov. 1986	March 1997	Feb. 2003	April 2005	Sept. 2009
TPH	1,000	4,000	360 (C13-28) 860 (C29-40)	490 (VFH)	N/A	95,000	2,100	400	190 (VFH) 660 (EFH)
Free product	N/A[1]	N/A	N/A	ND	6'	ND[2]	ND	ND	ND
Benzene	N/A	N/A	N/A	0.0023	N/A	N/A	<2.0	N/A	ND
Toluene	N/A	N/A	N/A	0.003	N/A	N/A	5.1	N/A	ND
Ethyl Benzene	N/A	N/A	N/A	ND	N/A	N/A	<0.2	N/A	ND
Xylene	N/A	N/A	N/A	ND	N/A	N/A	<2.0	N/A	ND
MTBE	N/A	N/A	N/A	N/A	N/A	N/A	<5	N/A	ND
TBA	N/A	N/A	N/A	N/A	N/A	N/A	<5	N/A	7.9

Comments regarding investigation and remediation

In July 1986, leakage was detected from piping associated with three USTs. The USTs stored ISOPAR G (C10-C11) and H (C11-C12), which was used in the manufacture of toner. Based on the results of a soil gas survey, four soil borings were advanced at the site. TPH (C6-C8) were detected at a concentration ranging from 50 to 1000 ppm. Six groundwater monitoring wells and twenty groundwater well points were installed to characterize the groundwater.

[1] N/A – Not Analyzed
[2] ND – Not Detected

2

Case Closure Summary
Site Name: Ricoh Electronics Case # 083000552T

Comments regarding investigation and remediation - continued

Groundwater was encountered at approximately 10 feet bgs and was found to flow to the south. Free product was detected up to 6.9 ft. In February 1988, FP recovery was initiated. On July 8, 1988 the Board issued Cleanup and Abatement Order CAO No. 88-78, requiring Ricoh to implement corrective measures and to establish waste discharge limits. In August 1988, Ricoh implemented groundwater extraction and treatment. Up to 14,000 gallons per day were discharged to the local storm drain which discharged into San Diego Creek. In September 1992, Ricoh requested cessation of groundwater remediation because free product was no longer detected in the Isopar/groundwater recovery system. In a letter dated December 15, 1992, Regional Board staff denied the request due to the continued presence of free product in some groundwater monitoring wells and the lack of consistent groundwater monitoring. The recovery system reportedly operated until July 1998, when the three USTs were removed and replaced.

In July through September 1998, the three USTs were removed and replaced by one 40,000-gallon Isopar UST. The UST area was reportedly excavated to a depth of 16 feet, approximately 100,000 gallons of groundwater from the excavation were treated and discharged, and ORC was placed in the backfill.

Due to the continued detection of elevated concentration of TPH in the groundwater, a subsurface investigation was conducted in December 2000. Five soil borings were advanced to 17 to 20 feet and three grab groundwater samples were collected. TPH was detected at a concentration of up to 1.9 mg/kg in the soil samples and up to 8,000,000 ug/l TPH was detected in the groundwater. In January 2003, two confirmatory wells were installed at the site. TPH was detected at a concentration of up to 2,100 ug/l in the groundwater. In February 2003, a 24-hour two phase extraction test was conducted. Vapor influent concentrations peaked at 1,060 ppmv after 18 hours of operation. Approximately 13.5 lbs (2.1 gallons) of petroleum hydrocarbons were recovered.

In April 2005, the TPH concentrations in the groundwater monitoring wells have reduced to 400 ug/l. As a result, Ricoh requested site closure. Final consideration of closure of the site was delayed due to the pending removal of the one remaining UST.

In September 2006, the 40,000-gallon UST was removed. Two soil samples were collected each from under the UST and the dispenser. TPH (C13-C28) and TPH (C29-C40) were detected at concentrations up to 360 ppm and 860 ppm, respectively. TPH (C13-C28) and TPH (C29-C40) were detected in groundwater samples collected from the excavation at concentrations up to 530 ug/l and not detected, respectively.

In July 2008, six soil borings were advanced on the Ricoh and adjacent Jaydee property to depths ranging from 17 to 45 feet bgs. The results indicated TPH at a concentration of 300 and 490 ppm in soil sampled from boring B-5 at depths of 10 and 15 feet bgs, respectively. Groundwater was sampled from two of the borings at depths ranging from 35 to 45 feet bgs. No TPH or VOCs were detected in the groundwater samples.

In September 2009, two groundwater monitoring wells were installed on the adjacent Jaydee property next to boring locations B-5 and B-6. Groundwater was found at approximately 13 feet bgs and groundwater flow was to the south to southwest. TPH-g and TPH-d were detected at a concentration of 190 ug/l and 660 ug/l, respectively.

On May 11, 2010, Board staff notified the legal counsel and property manger representing the fee holder of the adjacent property of the pending site closure. Board staff has not received any comments in response to the May 11, 2010 letter.

Based on this data, Ricoh's consultant asserts the following:

- In June 2008, volatile fuel petroleum hydrocarbons were detected at a maximum concentration of 490 mg/kg in soil samples collected from the JayDee property indicating that the concentrations are decreasing laterally from the former UST.

3

Case Closure Summary
Site Name: Ricoh Electronics Case # 083000552T

- Groundwater samples collected on the Jaydee property indicate petroleum fuel concentrations are not at a concentration of concern and are stable.
- No further action should be required because the low levels of petroleum hydrocarbons in the soil and groundwater do not pose a health risk.

Board staff is recommending site closure for the following reasons:

- The USTs have been removed from the site.
- A significant volume of the source petroleum hydrocarbons in the soil has been removed.
- The residual petroleum hydrocarbons in the soil and groundwater appear not to pose a significant enough risk to groundwater quality or the underlying groundwater's beneficial uses to warrant the expense of further remediation.
- It is anticipated that the concentration and mass of residual petroleum hydrocarbons would continue to decline due to biodegration and natural attenuation.
- The SARWQCB has not established TPH cleanup levels for soil for protection of human health and, at this time, no statewide TPH cleanup levels have been established. However, the residual concentrations of petroleum hydrocarbons detected in the soil borings do not exceed the environmental screening levels (ESLs) established by the San Francisco RWQCB for direct exposure for commercial workers (450 ppm for soils <3 m deep and 4200 ppm for soils >3 m deep for gasoline and diesel and 3700 ppm for residual fuels with a carbon chain > 24) and the Gross Contamination Ceiling Levels (for odors, etc.) for shallow soils (500 ppm for gasoline and diesel and 2500 ppm for residual fuels). Furthermore, according to Mullin, et al (1990), isoparaffinic hydrocarbon compounds "have a very low order of acute toxicity, being practically non-toxic by oral, dermal and inhalation routes. However, aspiration of liquid isopariffins into the lungs during oral ingestion could result in severe pulmonary injury" and non-evaporative dermal exposure by liquid isopariffins "have produced slight to moderate irritation". Given that no free product isopar is currently being detected at the site, it appears that there is a low likelihood that commercial workers would be exposed to liquid isopar. Based on these criteria, Board staff is not requiring a quantitative risk assessment of the residual petroleum hydrocarbons or vapor intrusion studies to determine if the residual petroleum hydrocarbons pose any risk to the nearby building occupants in the soil at this time.

On August 6, 2010, five groundwater monitoring wells and two groundwater extraction wells were abandoned on the Ricoh and adjacent JayDee Enterprises properties.

If land use changes at the site, a review of the corrective actions may be warranted if on-site excavation or construction activities expose contaminated soil or if changes in land use indicates that the residual contamination at the site poses a risk to site occupants.

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Case Closure Summary
Site Name: Ricoh Electronics Case # 083000552T

IV. Closure

Does completed corrective action protect *existing* beneficial uses per Regional Board Basin Plan?					Yes
Does completed corrective action protect *potential* beneficial uses per the Regional Board Basin Plan?					Yes
Does corrective action protect public health for current land use?					Yes
Site Management requirements?					None
Should corrective action be reviewed if land use changes?					See above discussions.
Monitoring/Extraction wells decommissioned	11	Number decommissioned	11	Number retained	0
List enforcement actions taken	CAO, 88-78, Site Specific NPDES Permit - Order 89-11				
List enforcement actions rescinded	Order 89-11 was superseded by General Groundwater Treatment Permit 91-63. Order 88-78 rescinded on February 2, 2007				

V. Regional Board Representative Data

Name	Kenneth R. Williams	Title	Supervisor, Pollutant Investigation Section
Signature	Kenneth R Williams	Date	8/11/2010

VII. References

Linda S. Mullin, Allan W. Ader, Wayne C Daughtrey, Debra Z. Frost, Michael R. Greenwood , 1990, Toxicology update isoparaffinic hydrocarbons: A summary of physical properties, toxicity studies and human exposure data, Journal of Applied Toxicology, Volume 10, Issue 2, Pages 135-142.

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Response to Lozeau Drury LLP Comment Letter dated May 11, 2020

Comment 1: This comment provides an introductory statement to the letter from Lozeau Drury LLP. The introductory statement notes the comments on the Final EIR are submitted on behalf of the Supporters Alliance for Environmental Responsibility, and its members living in and near Santa Ana. The comment also provides generalized assertions and states that the EIR fails to comply with CEQA and fails to adequately analyze and mitigate the Project's impacts and should be recirculated prior to approval. The letter also states that the letter includes comments from technical reviewers related to air quality, traffic, and hazardous materials.

Response 1: This comment is general in nature and does not provide any examples or citations of where analysis within the EIR is flawed, where additional information is needed, or what feasible mitigation is recommended. In accordance with CEQA, the City of Santa Ana prepared a Draft and Final EIR for the proposed Project for the purpose of informing City decision makers, governmental agencies, and the public about the potential significant environmental effects of the proposed Project, identifying the ways that environmental impacts can be avoided or significantly reduced, and implementing mitigation to reduce and prevent impacts to the environment. The EIR adequately analyzes the environmental effects of the proposed Project, and the conclusions in the EIR are supported by substantial evidence in the record. None of the requirements for recirculation listed in CEQA Guidelines Section 15088.5, have been triggered, and recirculation of the Draft EIR is not required.

Comment 2: This comment summarizes the proposed Project, including the proposed discretionary actions.

Response 2: This comment is an introduction and summary of the Project and does not include comment about the environmental analysis in the EIR and, therefore, does not require an additional response.

Comment 3: This comment provides a summary of CEQA requirements through references to case law and statutes. The comment asserts that the Final EIR fails to meet CEQA's legal standards and includes conclusory statements that lack any factual support or analysis.

Response 3: This comment is general in nature and does not identify any specific alleged deficiency with the analysis in the EIR, or any other alleged noncompliance with CEQA. To the extent such argument is asserted, the EIR thoroughly and appropriately evaluated the Project's potential environmental impacts, and the conclusions of the EIR are supported by substantial evidence, including expert opinion.

Comment 4: This comment provides an introduction to Francis Offermann, PE, CIP and describes that Mr. Offermann explains that many composite wood products typically used in modern home construction contain formaldehyde-based glues which off-gas formaldehyde. The comment asserts that there is a fair argument that residents of the Project will be exposed to a cancer risk from formaldehyde of approximately 112 per million, which is above the South Coast Air Quality Management District (SCAQMD) CEQA significance threshold for airborne cancer risk of 10 per million. The comment further asserts that these indoor emissions could be exacerbated by roadway emissions near the Project and provides mitigation measures.

Response 4: The comment does not describe how the asserted formaldehyde related cancer risk of 112 per million would occur and does not identify any Project-specific conditions (other than the fact that the Project's construction may use wood building materials) that would lead to impacts. Current federal and state regulations exist, which limit the potential formaldehyde emissions from building materials. On June 1, 2018, the U. S. Toxic Substances Control Act (TSCA) Title VI was implemented, which requires composite wood products sold, supplied, offered for sale, manufactured, or imported in the United States are

required to meet new emission standards for formaldehyde from composite wood products in order to reduce exposures to formaldehyde and avoid adverse health effects. Typical composite wood products include hardwood plywood, medium-density fiberboard, and particleboard, as well as household and other finished goods containing these products. The new emission limits include the following:

- Hardwood Plywood: 0.05 parts per million (ppm)
- Particleboard: 0.09 ppm
- Medium-density fibreboard: 0.11 ppm
- Thin Medium-density fibreboard: 0.13 ppm

These emission levels were determined to be incompliance with and result in less exposure (e.g., daily intake) than the California Proposition 65 safe harbor level for formaldehyde (40 µg/day), which is based on Proposition 65's risk criterion of 1 in 100,000. Thus, products manufactured to TSCA Title VI and California Proposition 65 safe harbor standards, which is now required by the U.S. EPA for all products manufactured or imported into the United States, would not generate formaldehyde emissions that would exceed the SCAQMD significance threshold of 10 per million.

CARB identifies that these standards are projected to lead to a reduction in statewide formaldehyde emissions of 500 tons per year. Reduced risk of cancer from formaldehyde exposure is also a resulting benefit, and implementation of these standards is estimated to reduce excess cancer cases per million people from formaldehyde exposure by about 40 percent (https://www.arb.ca.gov/toxics/compwood/implementation/faq.htm#G). The CalGreen Building Code also includes similar formaldehyde limits for building products.

The Project would be implemented pursuant to these formaldehyde requirements, as all products manufactured or imported in the United States would be required to meet these regulations. This would limit the potential of human health and cancer risks to a less than significant level pursuant to the SCAQMD significance threshold of 10 per million. Thus, building material manufacturer compliance with existing regulations would avoid potentially significant impacts related to formaldehyde. Thereby, the Project would also result in less than significant impacts.

Comment 5: This comment states that the City has the duty to investigate potential environmental impacts related to formaldehyde emissions to reduce the cancer risk below the SCAQMD threshold. The comment provides references to case law and statutes related to assessing potential health impacts and asserts that the Project would generate substantial formaldehyde emissions. The comment further states that the information provided establishes a fair argument that the Project will have a significant adverse environmental impact and a revised EIR is required.

Response 5: As described above in Response 4, the Project would not exceed SCAQMD thresholds for formaldehyde, and health risks or other substantial adverse effects on human beings related to formaldehyde would not occur from the Project. Thus, mitigation measures would not be required. In addition, the comment does not constitute substantial evidence of a fair argument of a significant environmental impact.

Comment 6: This comment states that attached comments of traffic engineer Dan Smith indicate that the Project will have significant impacts on traffic and that the EIR relies on a hypothetical traffic baseline rather than conditions that exist at the time environmental analysis begins. The comment provides references to case law and statutes related to baseline conditions and states that rather than relying on

the traffic generated from the partially vacant building space, the traffic analysis assumed that the site was fully occupied. The comment asserts that this resulted in understatement of project traffic impacts.

Response 6: The baseline used for the traffic study was calculated using existing traffic counts taken at the project study intersections. The traffic counts were collected in April and May 2019 and were used to calculate the existing and opening year traffic conditions. The existing counts were also used as the base for post-processing OCTAM model data. As a result, the baseline is not hypothetical, as the commenter asserts. Rather, the baseline is based on actual observed conditions within the project study area within one year of the circulation of the EIR. The commenter is incorrect in the assertion that the traffic analysis does not rely on the baseline traffic conditions at the time of the NOP. Credit for existing land uses was taken in the project trip generation, which provides a more realistic analysis of the project impacts, as the existing uses are present on-site and could be re-operated without any discretionary action by the City. The vacancy at the project site has occurred only around a year prior to the NOP in response to the expectation of selling the property for the existing project. Therefore, it is appropriate to consider the existing use at full capacity. With no project, it would be expected that the existing use would reoccupy the space to the maximum entitlement of the site. The comment also asserts that the trip generation prepared for the existing land uses is too high based on the existing use of the site. However, as stated previously, the credit for existing land uses is based on the previous use of the site, not on the existing site operation. The credit for existing land uses was reviewed and approved by the Cities of Santa Ana, Tustin and Irvine prior to preparation of the technical analysis. None of the Cities raised any significant concern about the methodology and no comments to this regard were received during the public comment period.

Comment 7: This comment states that The EIR improperly classifies 18,000 square feet of retail in the Project as a shopping center; that 18,000 square feet does not constitute a shopping center, and further asserts that by using the shopping center land use traffic generation rate, the EIR underestimates that traffic that would be generated by the proposed Project.

Response 7:. In the FEIR, the square feet of retail increased from 18,000 square feet of retail to 31,000 square feet of retail. The specific retail use is not known at the time of preparing the EIR, so shopping center was used. This is common with multi-family and mixed-use projects and is consistent with other previously approved projects in the City such as the nearby Heritage project located at 2001 E. Dyer Road. Therefore, it is appropriate for the project to use shopping center for the retail portion of the project. Furthermore, the commenter asserts that the size of the shopping center is consistent with a boutique grocery store or pharmacy. However, both grocery and pharmacy uses would require one larger retail space. The project proposes a number of smaller retail spaces, which is consistent with the description of "Shopping Center" as provided in the Institute of Transportation Engineers (ITE), *Trip Generation*, 10th Edition. That description states "A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit". ITE provides separate rates for grocery and pharmacy, neither of which are applicable to the project. Furthermore, the ITE database for land use 820 – Shopping Center includes 21 studies of shopping centers that are 31,000 square feet or smaller. There is sufficient data to establish a trip generation rate for smaller shopping centers.

In addition, a Study by Kimley-Horn and Associates, Trip-Generation Rates for Urban Infill Land Uses in California (2009) discusses appropriate trip rates for infill mixed-use development projects. One of those rates for retail is shopping center, which can range from shopping centers less than 190,000 square feet to individual businesses within buildings. The Bowery comfortably falls within that range, making the use of shopping center appropriate.

Finally, the comment states that ITE's Shopping Center category is meant for structures of 400,000 square feet of retail or more. This statement is not supported by the description provided in *Trip Generation*, or by

a critical examination of the data which supports the trip rates, which includes samples from sites with 2,000 square feet to more than 2,000,000 square feet.

Comment 8: This comment asserts that the EIR makes excessive assumptions of trip reductions from internalization and passer-by attraction, which when combined with improper deductions from existing land uses, makes a series of assumptions that are favorable to the Project. The comment further states that CEQA requires a lead agency to disclose the full scope of potential impacts and asserts that by relying on the most favorable assumptions, the EIR fails as an informational document.

Response 8: The project appropriately uses the internal trip capture rate and passer-by attraction rates provided by the ITE Trip Generation Handbook 3rd Edition. These rates come from multiple studies taken throughout the country and are the most current rates provided by the ITE. Once again, these rates are also consistent with previously approved projects in the City such as the Heritage Project. Therefore, it is appropriate for the project to take credit for internal capture and pass-by trips to analyze a more realistic impact.

It is not required in CEQA to overestimate and mitigate unrealistic projects impacts. CEQA requires a good faith analysis of realistic project impacts. Utilizing these rates provide a realistic analysis of the projects impacts due to the nature of a mixed-use project.

This comment also states that the internal trip capture and pass-by reductions were the maximum end of the range provided in the *Trip Generation Handbook, 3rd Edition*. This statement is incorrect. The pass-by reductions were taken from the average pass-by reductions shown in the *Trip Generation Handbook, 3rd Edition*. Additionally, the internal trip capture was calculated using the NCHRP Report 684 spreadsheet which is consistent with the Trip Generation Handbook methodology. This method does not provide a range of internal trip capture reductions, but rather calculates the internal and external trips based on project characteristics and trip generation.

Comment 9: This comment states that the EIR fails to adequately respond to comments on traffic by the Orange County Transportation Agency. The comment asserts that the correction of text related to roadway cross sections in the Final EIR failed to analyze whether the changes have any consequential impact on the outcomes of impact analysis. The comment further asserts that overstating the number of lanes on several roadways could have significant consequences on the Project's traffic impacts and that the EIR should be revised to address the impact of these changes on the traffic analysis.

Response 9: The response to Orange County Transportation Agency's (OCTA) comments provided in the FEIR adequately respond to OCTA's comments. Many of the text changes did not correspond to the study intersections analysis and would not have any impact on the results. The text changes that did correspond to study intersections were updated in both the text and analysis, so any impact on the analysis was accounted for and shown in the FEIR.

Comment 10: This comment asserts that as a result of numerous deficiencies, the EIR's traffic analysis violates CEQA.

Response 10: As described in the previous responses, the EIR's traffic analysis adequately analyses the projects transportation impacts and honors the intent of CEQA. All of the assumptions and reductions made are in accordance with widely accepted rates from ITE and consistent with previously approved projects in the City such as the Heritage project. It is not required to overanalyze and mitigate unrealistic impacts under CEQA. The intent of CEQA is to accurately analyze a project's impacts and mitigate reasonable and foreseeable impacts. The scope of the Traffic Impact Analysis as well as the final analysis was reviewed

and approved by the Cities of Santa Ana, Irvine and Tustin and conform to accepted traffic engineering methods. The traffic section of the EIR as well as the supporting Traffic Impact Analysis appropriately analyses the foreseeable impacts and provides reasonable mitigation measures and is therefore consistent with the intent and standards of CEQA.

Comment 11: This comment asserts that the Project will have a significant impact on population and housing by displacing 200 homeless people. The comment states that although the City is working on various homeless shelter solutions that are anticipated to be available for the existing persons on the Project site prior to construction of the proposed Project, the EIR does not provide substantial evidence to support the conclusion that the Project would not have a significant impact; and thus, violates CEQA.

Response 11: Mercy House Living Centers, Inc., has a two-year contract with the City of Santa Ana to operate an Interim Emergency Homeless Shelter at the Project site, which is set to expire in October 2020, with an optional one-year extension. The current zoning, Light Industrial (M-1), does not permit permanent residential uses and the temporary emergency facility is an interim use which will be relocated prior to the construction of the proposed Project. Independent of the proposed Project, the City has been taking the required steps to identify a new location for the Interim Emergency Homeless Shelter, given the temporary nature of the facility described earlier. The City of Santa Ana Community Development Agency is taking steps to identify a new location for City Council consideration, tentatively within the next 30 days.

Comment 12: This comment asserts that the EIR fails to disclose that the Project site is contaminated with hazardous materials and is on the Cortese List, and provides the Draft EIR discussion related to impacts related to sites on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The comment also asserts that the Final EIR includes a statement that "Sites where response actions have been completed and no operation and maintenance activities are required are not included on the list."

Response 12: As detailed in the EIR, the Project site is not included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Section 65962.5(a)(4) requires that DTSC shall compile and update as appropriate, a list of hazardous substance release sites subject to a response action. The DTSC's list of sites are published in the DTSC "Envirostor" database at the following weblink: https://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST. In addition, Cortese List sites are mapped on the DTSC website: https://www.envirostor.dtsc.ca.gov. The Project site is not on the DTSC list or mapping.

In addition, the EIR does not include the statement that "Sites where response actions have been completed and no operation and maintenance activities are required are not included on the list." However, that language is provided on the CalEPA website related to the Cortese List: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/

Comment 13: This comment asserts that the DTSC has indicated that the site is on the Cortese List. The comment also states that closure of an underground storage tank case does not take a site off the Cortese List because residual contamination may remain at levels that would not be safe for residential development. The comment further asserts that the site would be put on the Cortese List for remedial contamination.

Response 13: As described in Response 12, the Project site is not on the Cortese List. As detailed in the Final EIR, the DTSC did not state that the Project is on the Cortese List. The DTSC comment requested additional information be provided from the Regional Water Quality Control Board (RWQCB)

GeoTracker database, and to describe the site remediation. The GeoTracker database is the State Water Resources Control Board's management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. The database contains both current and historic records of spill and cleanup sites and is not the Cortese List compiled pursuant to Government Code Section 65962.5 (the link to which is provided in Response 12).

The Geotracker database identifies that the site had leakage from underground piping in 1986 and went through remediation until cleanup was determined by the RWQCB to be "Completed" and the RWQCB case was "Closed" in 2010. In addition, the site would not be put on the Cortese List for remedial contamination. As described in Section *5.7*, *Hazards and Hazardous Materials*, of the Draft EIR, the Project site has undergone extensive testing related to hazardous substances through preparation of a Phase I Environmental Site Assessment in 2018, a Phase II Environmental Site Assessment in 2018, and a Limited Phase II Subsurface Investigation Report in 2019, which are provided as Appendix F of the Draft EIR.

These investigations determined that the Project site contains approximately 900 cubic yards of contaminated soil that would require excavation and disposal as part of excavation and grading activities. This includes approximately, 850 cubic yards of TPH contaminated soils (above residential screening levels) and 80 cubic yards of TPH-(diesel) contaminated soils. These contaminated soils are part of the existing condition and would be remediated during Project excavation and grading activities as required by DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the Orange County Health Care Agency (OCHCA) for residential uses. Thus, with compliance with existing regulations as implemented through the City's permitting process and Mitigation Measure HAZ-1, the Project would safely remove the existing hazardous materials and improve the environment of the Project site. These cleanup activities that would occur as part of the Project would not result in the site being included on the Cortese List.

Comment 14: This comment states that the EIR fails to disclose material information about the Project site, and that the public and decision makers are required to dig the appendices of the EIR in order to find out basic information about the Project, and asserts that this is a violation of CEQA. The comment further asserts that the Draft EIR:

- Does not disclose that the Project site is contaminated with hazardous materials at levels that exceed residential human health screening levels.
- Does not disclose the impact the existing contamination could have on human health of construction workers or future residents of the Property.
- Does not mention or describe previous hazardous materials remediation efforts at the Project site.
- Does not disclose that the Project will need to re-open its formerly closed case in order to further remediate existing contamination such that the site would meet residential contamination standards.

Response 14: This comment is inaccurate. The Draft and Final EIRs describe the various subsurface investigations that were conducted on the site to identify potential areas of contamination. As described in Section *5.7*, *Hazards and Hazardous Materials*, of the Draft EIR, the Project site has undergone extensive testing related to hazardous substances through preparation of a Phase I Environmental Site Assessment, Phase II Environmental Site Assessment, and a Limited Phase II Subsurface Investigation that are summarized on page *5.7*-9 of the Draft EIR. The Draft EIR describes the location of the former underground storage tanks (USTs) and the estimated volume of existing soil that is contaminated with petroleum hydrocarbons (TPH) above residential screening levels. In addition, the Draft EIR describes that

there are no detectable levels of Volatile Organic Compounds (VOC) in soil gas, and the levels of VOC in soil do not exceed residential use standards (Draft EIR page 5.7-9).

As described in Response 13, hazardous substances would be remediated during Project excavation and grading activities as required by DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the OCHCA for residential uses. Thus, with compliance with existing regulations as implemented through the City's permitting process and Mitigation Measure HAZ-1, the Project would safely remove the existing hazardous materials and improve the environment of the Project site. The Soil Management Plan (SMP) required by Mitigation Measure HAZ-1 would detail hazardous materials excavation and disposal methods and requirements pursuant to the regulation of Title 8 of the California Code of Regulations (CalOSHA) and DTSC regulations for the removal, transportation, and disposal of hazardous waste that are designed to protect human health and the environment, including construction workers on the site.

In addition, as describe on Draft EIR page 5.7-2, the federal Occupational Safety and Health Act Safety and Health Regulations for Construction (29 CFR Part 1926.65 Appendix C) contains requirements for construction activities, which include occupational health and environmental controls to protect worker health and safety. The guidelines describe the health and safety plan(s) that must be developed and implemented during construction, including associated training, protective equipment, evacuation plans, chains of command, and emergency response procedures. In addition, CalOSHA requires preparation of an Injury and Illness Prevention Program (IIPP). Compliance with OSHA and CalOSHA regulations would maintain worker safety related to the removal and disposal of contaminated soils. Adherence to Mitigation Measure HAZ-1 would implement a site specific a SMP that includes hazard-specific OSHA and Cal/OSHA regulations. Thus, adequate mitigation measures are identified that would protect both the environment and construction workers.

As required by CEQA, the Section 5.7.3, *Environmental Setting*, provides a description of the former uses on the Project site and the potentially existing hazardous materials that are on the Project site. The Draft EIR further evaluates the potential of the Project to result in environmental impacts related to this existing condition. Previous remediation activities on the site are described in Appendix F of the Draft EIR.

In addition, as described in Response to Comment 12, the Project site is not on the Cortese List and the Project would not result in the site being included on the Cortese List. Conversely, the Project would safely remove the existing hazardous materials and meet residential standards pursuant to existing regulations that would be ensured through Project permitting.

Comment 15: This comment asserts that the EIR fails to provide a good faith reasoned response to comments from DTSC and provides a summary of CEQA requirements related to response to comments through references to case law and statutes. The comment further asserts that the response to the DTSC request for GeoTracker information is inadequate, that the site should be identified as on the Cortese list and that it should be described if the Project site was remediated to meet the residential land use cleanup goals.

Response 15: As described previously in Responses to Comments 12 and 13, the Project site is not on the Cortese List and the DTSC did not state that the Project is on the Cortese List. The DTSC comment requested additional information be provided from the RWQCB GeoTracker database, which was provided in response. In addition, as described previously in Responses the Project would safely remove the existing hazardous materials and meet residential standards pursuant to existing regulations that would be ensured through Project permitting.

Comment 16: This comment asserts that the EIR states that Mitigation Measure HAZ-1 is insufficient to ensure mitigation of impacted soils and that engagement of the DTSC is necessary. The comment further states that a soil mitigation plan is not an instrument that is used by DTSC. The comment provides suggested mitigation language and provides activities that asserts are from the DTSC comment letter.

Response 16: As described in the Final EIR and page 5.7-22 of the Draft EIR, contaminated soils would be excavated and removed during Project excavation and grading activities pursuant to the regulations of DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the OCHCA. Mitigation Measure HAZ-1 requires approval of a Soil Management Plan (SMP) to ensure that excavation of contaminated soils be completed pursuant to existing DTSC and RWQCB requirements. The SMP would detail hazardous materials excavation and disposal methods and requirements pursuant to the regulation of Title 8 of the CalOSHA regulations and DTSC requirements for the removal, transportation, and disposal of hazardous waste to protect human health and the environment. Therefore, the mitigation related to removal of the contaminated soils includes engagement of the DTSC, as necessary. In addition, contrary to the comment, the DTSC comment letter (included in the Final EIR) does not include a list of requirements for a removal action work plan.

Comment 17: This comment asserts that the Mitigation Measure HAZ-1 constitutes deferred mitigation, and that this is a deferral of mitigation that is not allowed by CEQA. The comment also provides a summary of CEQA requirements related to deferral of mitigation through references of court decisions and statutes. In addition, the comment states that the deferred mitigation removes the CEQA decision-making body from its decision-making role and that the EIR may not rely on programs to be developed and implemented later without approval by the City. The comment further states that without valid mitigation, the Project's significant hazardous materials impact remains significant.

Response 17: Refer to Response 16. As described, the EIR ensures compliance with all the applicable hazardous materials regulations through the proposed mitigation. Mitigation Measure HAZ-1 would implement a site specific a SMP that would ensure specific existing regulations, procedures, and standards for removal, handling, and disposal of contaminated soils to protect human health and the environment would occur. The SMP would be based on the specific construction activities within the areas that contain the contaminated soils. The proposed mitigation does not constitute deferral because measurable performance standards that are set by existing regulations are required to be conducted. Use of existing regulations and their related performance standards that reduce environmental impacts are allowed pursuant to CEQA. Furthermore, the EIR and mitigation provides full disclosure and informed decision making by detailing the environmental issues of concern and methods for reducing the impact to a less than significant level.

Comment 18: This comment states that the EIR must be revised to correct its inconsistent statements about the likelihood of encountering contaminated groundwater during Project construction. The comment states that the Draft EIR page 5.5-5 in Section 5.5, *Geology and Soils*, states that based on onsite borings (completed in May 2019) the depth of groundwater is in the range of 24 to 33 feet below ground surface (bgs), which is not consistent with the RWQCB No Further Action letter for the Project site, which states that groundwater is at depths of 5.67 to 13 feet deep. In addition, the comment states that The EIR needs to plan for protection of construction workers who may encounter contaminated groundwater when excavation is conducted. Furthermore, the comment requests the City to require preparation of a revised EIR.

Response 18: The City recognizes that RWQCB No Further Action letter for the Project site (as provided by the comment) describes the history of groundwater sampling and monitoring at the site, which shows that groundwater levels fluctuate and ranged in depths from 5.67 to 13 feet bgs between 1986 and

2009. Likewise, the onsite borings (completed in May 2019) show that the depth to groundwater was in the range of 24 to 33 feet. The boring records are provided in Appendix C of the Draft EIR.

However, in the case that groundwater is encountered during Project construction, it would be treated and discharged, similar to the previous clean up activity detailed in the RWQCB No Further Action letter. As described in Responses 14 and 16, the federal Occupational Safety and Health Act Safety and Health Regulations for Construction contains requirements for construction activities, including health and safety plan(s). In addition, the CalOSHA required Injury and Illness Prevention Program (IIPP) would maintain worker safety related to potentially contaminated groundwater. Thus, implementation of construction pursuant to existing regulations as ensured through the permitting process would reduce potential impacts related to construction workers who may encounter contaminated groundwater when excavation is conducted to a less than significant level. The comment has not identified a potentially new impact not described in the EIR. Thus, none of the requirements for recirculation, as listed in CEQA Guidelines Section 15088.5, have been triggered, and recirculation of the Draft EIR is not required.

Comment 19: This comment provides background information related to indoor air quality that is general in nature. The comment refers to the California New Home Study completed in 2009 by Mr. Offermann (the commenter) in which many of the homes exceeded No Significant Risk Levels of formaldehyde. The comment asserts that based on findings from the previous study, the proposed Project would expose future residents to a significant airborne cancer risk of 180 per million, which is above the threshold of 10 per million.

Response 19: The circumstances of the 2009 study referenced by this comment and the residences evaluated in the 2009 study are different than and not applicable to the proposed Project. The residences surveyed were built between 2002 and 2004 and 64 percent of the ventilation systems in the homes did not meet 2008 Building Efficiency Standards. The proposed Project would be developed pursuant to the most recent building standards at the time of development (the 2019 standards took effect on January 1, 2020 and were adopted by the City), which would far exceed the function of the older systems evaluated in the study. The study found that formaldehyde concentrations were significantly higher in residences with non-mechanically ventilated and ducted outdoor air units. However, all Project buildings would be fully ventilated with air filtration systems with efficiencies that meet or exceed the California Building Code standards at the time of permitting. Thus, the lack of filtered ventilation that occurred during the study referenced by this comment, would not occur by the proposed Project. In addition, page 7 of the study states that "the research team was not able to determine the extent to which formaldehyde-based resins were used in the composite wood identified in the homes". Therefore, the assertion in this comment that the levels of formaldehyde identified in the 2009 study were from wood composite products that would be used in the proposed Project is unfounded.

It should be noted that the recommendations of the 2009 study are consistent with the Project. The study recommends that mechanical air ventilation systems that provide a dependable and continuous flow of air should be included in residences, which would occur with the proposed Project. The recommendations of the 2009 study also include regulating emissions of formaldehyde from wood products, which has been done by the U.S EPA and became effective in 2018. The proposed Project would be required through federal product standards to utilize products that have to be manufactured or imported pursuant to TSCA Title VI and California Proposition 65 safe harbor standards, which would not exceed the SCAQMD significance threshold of 10 per million and the Project would result in less than significant impacts related to formaldehyde and no mitigation is required.

Comment 20: This comment states that formaldehyde can be an eye and respiratory irritant and that many of the residences in the 2009 study exceeded non-cancer reference levels. The comment also states

that the primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, and that the CARB standards adopted in 2009 have reduced emissions from composite wood products sold in California, but they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations that are below cancer and non-cancer exposure guidelines.

Response 20: Refer to Response 19. The U.S. EPA requires all products manufactured or imported into the United States to meet TSCA Title VI and California Proposition 65 safe harbor standards that include regulations related to composite wood products manufactured with urea-formaldehyde resins, would preclude the Project from resulting in indoor formaldehyde emissions that would exceed the SCAQMD significance threshold of 10 per million. Thus, impacts would be less than significant.

Comment 21: This comment asserts that a follow up study to the California New Home Study conducted in 2016-2018 found that the 2009 CARB requirements reduced indoor formaldehyde emissions by 38 percent, the median lifetime cancer risk is still 112 per million for homes built with CARB compliant composite wood products which is more than 11 times the 10 in a million threshold. The comment also states that employees on the site would have a cancer risk of 16.4 per million, which exceeds the CEQA cancer risk of 10 per million and that the EIR should impose mitigation measures to reduce this impact.

Response 21: This comment is inaccurate. The follow up study referred to by this comment concluded that the residences developed in compliance to the 2009 CARB requirements showed good compliance with installed mechanical ventilation requirements; however, because the ventilation systems were not operating, the formaldehyde concentrations were similar to the previous study. Furthermore, the results of the follow up study found that adequate ventilation reduces formaldehyde to below the SCAQMD threshold. (Accessible: https://cloudfront.escholarship.org/dist/prd/content/qt2xg7s5nv/qt2xg7s5nv.pdf?t=pamtn8)

As described previously, the Project would utilize TSCA Title VI products that meet California Proposition 65 safe harbor standards and operate air filtration systems with efficiencies equal to or exceeding California Building Code regulations. Thus, the lack of ventilation that occurred during the studies referenced by this comment would not occur in the proposed Project. Thus, the levels of indoor formaldehyde described by the comment would not occur, and as detailed in previous responses, would be less than the SCAQMD threshold and no mitigation measures would be required.

Comment 22: This comment states that a formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings and minimum air ventilation rates. The comment also provides specific methodology to determine formaldehyde concentrations, and states that the methodology ensures that the materials and furnishings would have acceptable cancer risks related to formaldehyde off gassing.

Response 22: Refer to Response to Comment 19. The U.S. EPA requires all products manufactured or imported into the United States to meet TSCA Title VI and California Proposition 65 safe harbor standards that include regulations related to composite wood products manufactured with urea-formaldehyde resins, would preclude the Project from resulting in indoor formaldehyde emissions that would exceed the SCAQMD significance threshold of 10 per million. Thus, impacts would be less than significant, and the formaldehyde emissions assessment described by the comment is not required.

Comment 23: This comment describes the findings of the previously discussed New Home Studies and states that outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants and that 32 percent of the residences did not use their windows during the test day, and 15

percent of the residences did not use their windows during the entire preceding week. The comment asserts that because the Project is located near high traffic roadways that generate noise, the Project will require mechanical supply of outdoor air ventilation air to allow for a habitable interior environment with closed windows and doors.

Response 23: Refer to Response to Comment 21. Based on this comment a majority (68 percent) of residences opened windows the day of the testing and 85 percent opened their windows during the week of the testing. Thus, the study indicates that a majority of study residences had open windows at least part of the time. In addition, as described by previous responses, building ventilation with air filtration systems that equal to or exceed California Building Code requirements would be installed. Thus, the proposed Project includes a mechanical supply of filtered outdoor air ventilation air for all of the residences.

Comment 24: This comment states that traffic associated with the Project would result in increased outdoor concentrations of $PM_{2.5}$ and that the Project is within a non-attainment area for $PM_{2.5}$, and that an air quality analysis should be conducted to determine concentrations of $PM_{2.5}$ and consider cumulative impacts. The comment further states that if outdoor concentrations exceed state and national standards, a mechanical air filtration system for $PM_{2.5}$ concentrations should be used.

Response 24: As described in Draft EIR Section 5.2, *Air Quality*, the South Coast Air Quality Management District (SCAQMD) maintains monitoring stations that monitor air quality and compliance with associated ambient standards. The Project site is located within the monitoring boundary of the Central Orange County monitoring station (SRA 17), which is 10.2 miles northwest of the Project site. As detailed on Draft EIR page 5.2-9, in 2018 the concentrations of $PM_{2.5}$ exceeded standards for 3 days. Thus, the level of $PM_{2.5}$ in the Project area is limited.

In addition, as shown in Draft EIR Tables 5.2-7 through 5.2-9, implementation of the Project would not result in exceedances of $PM_{2.5}$ thresholds. Thus, impacts related to $PM_{2.5}$ emissions would not occur from the Project. Also, as described in Response 19, the proposed Project includes building ventilation with air filtration systems that equal to or exceed the California Building code.

Comment 25: This comment provides recommended mitigation measures to reduce indoor formaldehyde concentrations, which includes: 1) use of only composite wood materials that are CARB approved no-added formaldehyde (NAF) resins or ultralow emitting formaldehyde (ULEF) resins, or complete the previously provided emissions assessment to determine formaldehyde concentrations; 2) provide all habitable rooms with a continuous mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards; and 3) install air filtration with a minimum efficiency of MERV 13 to filter the outdoor air entering the mechanical outdoor air supply system.

Response 25: As described in Responses to Comments 19, 21, and 22, the levels of indoor formaldehyde within Project buildings would not exceed the SCAQMD significance threshold of 10 per million and the Project would result in less than significant impacts related to formaldehyde. Therefore, no mitigation is required. However, as required by the U.S. EPA and CARB, the proposed Project would utilize products that have to be manufactured or imported pursuant to TSCA Title VI and California Proposition 65 safe harbor standards. In addition, the Project includes air filtration systems with efficiencies equal to or exceeding the California Building Code requirements.

Comment 26: This comment provides a discussion regarding CARB ATCM regulations related to formaldehyde and states that it does not regulate the formaldehyde emissions from composite wood products. The comment also states that if CARB Phase 2 compliant composite wood products are utilized in construction, then emissions assessment to determine formaldehyde concentrations should be completed or

that the Project only use composite wood materials that are CARB approved no-added formaldehyde (NAF) resins or ultralow emitting formaldehyde (ULEF) resins.

Response 26: This comment is not Project specific and is general in nature. The comment does not provide any examples or citations of where analysis within the EIR is flawed. As described in Responses 19, 21, 22, and 25, pursuant to the Project would utilize products that have to be manufactured or imported pursuant to TSCA Title VI and California Proposition 65 safe harbor standards. As a result, formaldehyde within Project buildings would not exceed the SCAQMD significance threshold of 10 per million and Project impacts would be less than significant.

Comment 27: This comment is an attachment from Smith Engineering and Management, which states that in response to the requested, the EIR traffic analysis has been reviewed. The review asserts that the Project will have significant impacts on traffic and that the EIR relies on a hypothetical traffic baseline rather than conditions that exist at the time environmental analysis begins. The comment asserts that this resulted in understatement of Project traffic impacts.

Response 27: As stated in Response to Comment 6 above, the baseline used for the traffic study was calculated using counts taken at the project study intersections, which is not hypothetical. The credit taken was in the project trip generation, which provides a more realistic analysis of the projects impacts without double counting trips. The vacancy at the project site has occurred only around a year prior to the NOP in response to the expectation of selling the property for the existing project. Therefore, it is appropriate to consider the existing use at full capacity. With no project, it would be expected that the existing use would reoccupy the space to the maximum entitlement of the site.

Comment 28: This comment states that The EIR improperly classifies 18,000 square feet of retail in the Project as a shopping center; that 18,000 square feet does not constitute a shopping center, and further asserts that by using the shopping center land use traffic generation rate, the EIR underestimates that traffic that would be generated by the proposed Project.

Response 28: As stated in Response to Comment 7 above, the FEIR had an increase in the square feet of retail, from 18,000 square feet of retail to 31,000 square feet of retail. The specific retail use is not known at the time of preparing the EIR, so shopping center was used. This is common with multiple and mixed-use projects and is consistent with other previously approved projects in the City such as the Heritage project. Therefore, it is appropriate for the project to use shopping center for the retail portion of the project.

In addition, a Study by Kimley-Horn and Associates, Trip-Generation Rates for Urban Infill Land Uses in California (2009) discusses appropriate trip rates for infill mixed-use development projects. One of those rates for retail is shopping center, which can range from shopping centers less than 190,000 square feet to individual businesses within buildings. The Bowery comfortably falls within that range, making the use of shopping center appropriate.

Comment 29: This comment asserts that the EIR makes excessive assumptions of trip reductions from internalization and passer-by attraction, which when combined with improper deductions from existing land uses, makes a series of assumptions that are favorable to the Project.

Response 29: As stated in response 8, the project appropriately uses the internal trip capture rate and passer-by attraction rates provided by the Institute of Transportation Engineers (ITE) Trip Generation Handbook 3rd Edition. These rates come from multiple studies taken throughout the country and are the most current rates provided by the ITE. Once again, these rates are also consistent with previously

approved projects in the City such as the Heritage Project. Therefore, it is appropriate for the project to take credit for internal capture and pass-by trips to analyze a more realistic impact.

It is not required in CEQA to overestimate and mitigate unrealistic projects impacts. CEQA requires a good faith analysis of realistic project impacts. Utilizing these rates provide a realistic analysis of the projects impacts due to the nature of a mixed-use project.

In the State of California, and ITE, there is a push to encourage more mixed-use projects because of the reduction of travel. To not utilized the approved and accepted rates would defeat the purpose of constructing a mixed use project.

Comment 30: This comment states that the EIR fails to adequately respond to comments on traffic by the Orange County Transportation Agency. The comment asserts that the correction of text related to roadway cross sections in the Final EIR failed to analyze whether the changes have any consequential impact on the outcomes of impact analysis. The comment further asserts that overstating the number of lanes on several roadways could have significant consequences on the Project's traffic impacts.

Response 30: As stated in response 9, the response to Orange County Transportation Agency's (OCTA) comments provided in the FEIR do adequately respond to OCTA's comments. Many of the text changes did not correspond to the study intersections analysis and would not have any impact on the results. The text changes that did correspond to study intersections were updated in both the text and analysis, so any impact on the analysis was accounted for and shown in the FEIR.

Comment 31: This comment asserts that as a result of numerous deficiencies, the EIR's traffic analysis violates CEQA.

Response 31: As described in the previous responses, as well as in response 10, the EIR's traffic analysis adequately analyses the projects transportation impacts and honors the intent of CEQA. All of the assumptions and reductions made are in accordance with widely accepted rates from ITE and consistent with previously approved projects such as the Heritage project. It is not required to overanalyze and mitigate unrealistic impacts under CEQA. The intent of CEQA is to accurately analyze a project's impacts and mitigate reasonable and foreseeable impacts. The traffic section of the EIR, as well as the supporting Traffic Impact Analysis, appropriately analyses the foreseeable impacts and provides reasonable mitigation measures and is therefore consistent with the intent and standards of CEQA.

Comment 32: This comment is from a letter prepared by Smith Engineering and Management, which summarizes the existence of contaminated soils onsite and states that on its own, Mitigation Measure HAZ-1 is insufficient to ensure mitigation of impacted soils and that engagement of the DTSC is necessary. The comment further states that a soil mitigation plan is not an instrument that is used by DTSC. The comment provides suggested mitigation language and provides activities that asserts are from the DTSC comment letter. In addition, the comment describes the oversight authority of the RWQCB.

Response 32: As described previously In Response 16, contaminated soils would be excavated and removed during Project excavation and grading activities pursuant to the regulations of DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the OCHCA. Mitigation Measure HAZ-1 requires approval of a Soil Management Plan (SMP) to ensure that excavation of contaminated soils be completed pursuant to existing DTSC and RWQCB requirements. Therefore, the mitigation related to removal of the contaminated soils includes engagement of the DTSC, as necessary. In addition, contrary to the comment, the DTSC comment letter (included in the Final EIR) does not include this list of requirements for a removal action work plan.

Comment 33: This comment is also from a letter prepared by Smith Engineering and Management, and states that encountering contaminated groundwater during Project excavation must be considered. The comment states that the Draft EIR describes that the depth of groundwater is in the range of 24 to 33 feet below ground surface (bgs), which is not consistent with the RWQCB No Further Action letter for the Project site, which states that groundwater is at depths of 5.67 to 13 feet deep. In addition, the comment states that The EIR needs to plan for protection of construction workers who may encounter contaminated groundwater when excavation is conducted. Furthermore, the comment states that the letter was prepared based on limited documentation regarding the Project.

Response 33: As described previously In Response 18, groundwater levels on the site have fluctuated between 1986 and 2019. However, in the case that groundwater is encountered during Project construction, it would be treated and discharged pursuant to RWQCB requirements. Also, as described in Responses 14 and 16, the federal Occupational Safety and Health Act Safety and Health Regulations for Construction contains requirements for construction activities, including health and safety plan(s). In addition, the CalOSHA required Injury and Illness Prevention Program (IIPP) would maintain worker safety related to potentially contaminated groundwater. Thus, implementation of construction pursuant to existing regulations as ensured through the permitting process would reduce potential impacts related to construction workers who may encounter contaminated groundwater when excavation is conducted to a less than significant level.

Letter PC2: Mitchell M. Tsai Comment Letter dated May 11, 2020 (70 pages and Attachment 1)

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VIA U.S. MAIL & E-MAIL

May 11, 2020

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RE: City Planning Commission May 11, 2020 Meeting Agenda Item No. 3: The Bowery Mixed-Use Project Final EIR

Dear Chairman McLoughlin, Ms. Bernal and Mr. Guevara:

On behalf of Southwest Regional Council of Carpenters ("**Commenter**" or "**Southwest Carpenters**"), my Office is submitting these comments on the City of Santa Ana's ("**City**" or "**Lead Agency**") Final Environmental Impact Report ("**FEIR**") (SCH No. 2019080011) for The Bowery Mixed-Use Project ("**Project**").

The Southwest Carpenters is a labor union representing 50,000 union carpenters in six states, including in southern California, and has a strong interest in well-ordered land use planning and addressing the environmental impacts of development projects.

Commenters expressly reserve the right to supplement these comments at or prior to hearings on the Project, and at any later hearings and proceedings related to this Project. (Gov. Code § 65009(b); Pub. Resources Code § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.)

Commenters incorporate by reference all comments raising issues regarding the DEIR or the final Environmental Impact Report ("**EIR**") submitted prior to certification of

1

the EIR for the Project. (*Citizens for Clean Energy v City of Woodland* (2014) 225 Cal. App. 4th 173, 191 [finding that any party who has objected to the Project's environmental documentation may assert any issue timely raised by other parties].)

Moreover, Commenters request that the Lead Agency provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**"), Pub. Resources Code § 21000 *et seq*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Gov. Code §§ 65000–65010. Pub. Resources Code §§ 21092.2, and 21167(f) and Gov. Code § 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 1

The City must seriously consider proposing that the Applicant provide additional community benefits such as requiring local hire and paying prevailing wages to benefit the City. Moreover, it would be beneficial for the City to require the Applicant to hire workers: (1) who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, or have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state approved apprenticeship training program and; (2) who are registered apprentices in an apprenticeship training program approved by the State of California.

I. EXPERTS

This comment letter includes comments from air quality and greenhouse gas experts Matt Hagemann, P.G., C.Hg. and Paul Rosenfeld, Ph.D. concerning the DEIR. Their comments, attachments, and Curriculum Vitae ("CV") are attached hereto and are incorporated herein by reference.

Matt Hagemann, P.G., C.Hg. ("Mr. Hagemann") has over 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Mr. Hagemann also served as Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closer. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. 2

For the past 15 years, Mr. Hagemann has worked as a founding partner with SWAPE (Soil/Water/Air Protection Enterprise). At SWAPE, Mr. Hagemann has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality, and greenhouse gas emissions.

Mr. Hagemann has a Bachelor of Arts degree in geology from Humboldt State University in California and a Masters in Science degree from California State University Los Angeles in California.

Paul Rosenfeld, Ph.D. ("Dr. Rosenfeld") is a principal environmental chemist at SWAPE. Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts on human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risks, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. 2

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particular matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants, Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Dr. Rosenfeld has a Ph.D. in soil chemistry from the University of Washington, M.S. in environmental science from U.C. Berkeley, and B.A. in environmental studies from U.C. Santa Barbara. 2

II. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. Background Concerning the California Environmental Quality Act

CEQA has two basic purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 California Code of Regulations ("**CCR**" or "**CEQA Guidelines**") § 15002(a)(1).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made. Thus, the EIR 'protects not only the environment but also informed self-government.' [Citation.]" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.) The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs.* (2001) 91 Cal. App. 4th 1344, 1354 ("*Berkeley Jets*"); *County of Inyo v. Yorty* (1973) 32 Cal. App. 3d 795, 810.)

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); see also, *Berkeley Jets,* 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400.) The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." (CEQA Guidelines § 15002(a)(2).) If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in CEQA section 21081. (CEQA Guidelines § 15092(b)(2)(A–B).) 3

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a

project proponent in support of its position.' A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" (*Berkeley Jets*, *supra,* 91 Cal. App. 4th 1344, 1355 [emphasis added, quoting *Laurel Heights,* 47 Cal. 3d at 391, 409 fn. 12]. Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. (*Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102, 131.) As the court stated in *Berkeley Jets*, *supra,* 91 Cal. App. 4th at 1355:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.

3

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. (*Communities for a Better Environment v. Richmond* (2010) 184 Cal. App. 4th 70, 80 [quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 449–450].)

B. The EIR Fails to Maintain a Stable and Consistent Project Description

"[A]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient" environmental document. (County of Inyo v. City of Los Angeles (1977) 71 Cal. App. 3d 185, 200.) "A curtailed or distorted project description may stultify the objectives of the reporting process" as an accurate, stable and finite project description is necessary to allow "affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the "no project" alternative) and weigh other alternatives in the balance. (Id. at 192 – 93.) Courts determine de novo whether an agency proceeded "in a manner required by law" in maintaining a stable and consistent project description. (Id. at 200.)

4

The FEIR makes numerous modifications to the described Project including changes to the layout of the Project, the uses of the commercial space, landscaping and the ratio of required parking spaces that the Project will require 2 parking spaces per residential unit. (FEIR at 3-3.) The Project's environmental review process is deficient since it fails to maintain a 4

C. The FEIR's Modifications to the Project Description, Environmental Baseline, Hazards and Traffic / Transportation Analysis Require and Recirculation

Section 21092.1 of the California Public Resources Code requires that "[w]hen significant new information is added to an environmental impact report after notice has been given pursuant to Section 21092 … but prior to certification, the public agency shall give notice again pursuant to Section 21092, and consult again pursuant to Sections 21104 and 21153 before certifying the environmental impact report" in order to give the public a chance to review and comment upon the information. (CEQA Guidelines § 15088.5.)

Significant new information includes "changes in the project or environmental setting as well as additional data or other information" that "deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative)." (CEQA Guidelines § 15088.5(a).) Examples of significant new information requiring recirculation include "new significant environmental impacts from the project or from a new mitigation measure," "substantial increase in the severity of an environmental impact," "feasible project alternative or mitigation measure considerably different from others previously analyzed" as well as when "the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded." (*Id.*) 5

An agency has an obligation to recirculate an environmental impact report for public notice and comment due to "significant new information" regardless of whether the agency opts to include it in a project's environmental impact report. (*Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 95 [finding that in light of a new expert report disclosing potentially significant impacts to groundwater supply "the EIR should have been revised and recirculated for purposes of informing the public and governmental agencies of the volume of groundwater at risk and to allow the public

and governmental agencies to respond to such information."].) If significant new information was brought to the attention of an agency prior to certification, an agency is required to revise and recirculate that information as part of the environmental impact report.

1. Recirculation is Required to Give the Public an Opportunity to Review and Comment Upon Changes to the Project's Transportation Analysis

CEQA requires that an environmental document identify and discuss the significant effects of a Project, alternatives and how those significant effects can be mitigated or avoided. (CEQA Guidelines § 15126.2; PRC §§ 21100(b)(1), 21002.1(a).) A Court "[w]hen reviewing whether a discussion is sufficient to satisfy CEQA, . . . the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." (*Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 510 [citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405.]; *see also* PRC §§ 21002.1(e), 21003(b).) The Court may determine whether a CEQA environmental document sufficiently discloses information required by CEQA *de novo* as "noncompliance with the information disclosure provisions" of CEQA is a failure to proceed in a manner required by law. (PRC § 21005(a); *see also Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 515.) Failure to include all required information in a Draft EIR requires revision and recirculation of the Draft EIR. 5

The FEIR requires revision and recirculation since the Project's transportation analysis was entirely redone to perform both VMT analysis as well as revised LOS analysis based upon modifications to the Project. Since VMT analysis and transportation analysis are required under CEQA, the failure of the DEIR to include this information was an unlawful omission of information that requires revision and recirculation since the DEIR was fundamentally and basically inadequate.

2. Recirculation is Required to Give the Public an Opportunity to Review and Comment Upon Significant New Information Concerning On-Site Contamination

The FEIR acknowledges that the DEIR falsely claimed that the Project Site is listed as a hazardous material site. (FEIR at 2-3.) The FEIR also acknowledges that the DEIR failed to discuss the fact that "the Project Site may be located within a groundwater basin that is impacted by volatile organic compounds." (FEIR at 2-4.) The DEIR fails to disclose "OCHA investigation data and potential risk to future receptors associated with groundwater contamination" at the Project Site. (FEIR at 2-4.) The failure of the DEIR to include this information was an unlawful omission of information that requires revision and recirculation since the DEIR was fundamentally and basically inadequate. 6

i. The City Failed to Consult With the California Department of Toxic Substances Control as a Responsible Agency, Rendering the Project's CEQA Process Entirety Defective and Requiring Revision and Recirculation of the Project's Draft Environmental Impact Report

Section 21080.4(a) of the Cal. Public Resources Code requires that a lead agency upon determining that a CEQA environmental impact report is necessary for a project, notify all responsible agencies, the Office of Planning and Research ("OPR") and trustee agencies. Within 30 days of receiving notice, a responsible or trustee agency is expected to provide "environmental information related to the responsible or trustee agency's area of statutory responsibility that must be included in the draft EIR." (Guidelines Section 15082(b) (emphasis added). *see also* Guidelines Section 15096(b)(2).) 7

However, not only did the City not consult the California Department of Toxic Substances Control ("**DTSC**") concerning the FEIR, but the City failed to consult any responsible agencies whatsoever. The FEIR concedes that DTSC as well as the California Integrated Waste Management Board, Santa Ana Regional Water Quality Control Board, Orange County Fire Authority and the Orange County Health Care Agency are all responsible agencies for the Project pursuant to Mitigation Measure HAZ-1 and should have been consulted prior to release of the environmental impact report. (FEIR at 2-8.)

3. Recirculation is Required to Give the Public an Opportunity to Review and Comment Upon Changes to the Environmental Setting / Baseline for the Project

The FEIR makes a number of modifications to the Project's environmental setting or baseline, requiring revision and recirculation. In particular, the DEIR originally required additional mitigation for noise impacts due to aviation operations near the Project Site requiring that "all prospective residents of the Project site shall be notified of airport related noise." (DEIR at 1-17, tbl. 1-2; FEIR at 3-1.)This was due to the DEIR indicating that the Project Site was located with the Airport Environs Land Use Plan Area ("AELUP Area") for John Wayne Airport. (DEIR at 5.7-10; FEIR at 3-5.) However, the FEIR subsequently determined that the Project Site is not within the AELUP Area for John Wayne Airport. This change is significant new information requiring revision and recirculation since it is both a change in environmental setting and indicates that the DEIR is fundamentally and basically inadequate. 8

4. Recirculation is Required to Give the Public an Opportunity to Review and Comment Upon the Project's Aesthetic Impacts due to Modifications to the Project's Height and Size

The FEIR also indicates changes to the Project that will have new, significant and previously undisclosed aesthetic impacts. In particular, the FEIR discloses that the Project will have two parking structures, one 76 feet in height and the other 70 feet in height. The aesthetic impact of the height and size of these parking structures were not disclosed or otherwise analyzed in the DEIR, and therefore is significant new information requiring revision and recirculation, as they show a previously undisclosed environmental impact and that the DEIR was fundamentally and basically inadequate. 9

5. Recirculation is Required to Give the Public an Opportunity to Review and Comment Upon Revised Construction Energy and Air Quality Impacts

The FEIR also indicates changes to the Project that will have new, significant undisclosed energy and air quality impacts. The FEIR discloses that rather than having a 24 month construction period as originally discussed, the FEIR will be under construction for 27 months. (DEIR 5.4-5, FEIR 3-4.) 10

D. The EIR Fails to Disclose Significant and Unmitigated Environmental Impacts Relating to Air Quality

As stated above, an EIR must disclose, evaluate, and ultimately provide feasible mitigation measures for significant environmental impacts. Here, the EIR fails to disclose significant impacts relating to construction and operational health risks. According to Mr. Hagemann and Dr. Rosenfeld, the DEIR finds a less than significant impact "without conducting a quantified construction or health risk assessment" which the DEIR incorrectly justified. Mr. Hagemann and Dr. Rosenfeld make the following three points on the DEIR Air Quality analysis:

- the use of the LST method to determine the Projects health risk impacts on nearby, existing sensitive receptors is incorrect. While the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the Final Localized Significance Threshold Methodology document prepared by the SCAQMD, the LST analysis is only applicable to NOx, CO, PM10, and PM2.5 emissions, which are collectively referred to as criteria air pollutants. Because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether emissions from DPM, a known human carcinogen, will result in a significant health risk impact to nearby sensitive receptors. As a result, health impacts from exposure to toxic air contaminants (TACs), such as diesel particulate matter (DPM), were not analyzed, thus leaving a gap within the DEIR's analysis. 11

- the omission of a quantified HRA is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing guidance on conducting HRAs in California. In February of 2015, OEHHA released its most recent Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments. This guidance document describes the types of projects that warrant the preparation of an HRA. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a

construction period of approximately 26 months (Appendix B, pp. 247). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors. Therefore, per OEHHA guidelines, we recommend that health risk impacts from Project construction be evaluated by the DEIR. Furthermore, once construction of the Project is complete, the Project will operate for a long period of time. As previously stated, Project operation will generate approximately 11,546 daily vehicle trips, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 5.14-11, Table 5.14-5). The OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR). Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risks from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 2-month and 6-month requirements set forth by OEHHA. This guidance reflects the most recent health risk policy, and as such, we recommend that an updated assessment of health risks to nearby sensitive receptors from Project construction and operation be included in a revised CEQA evaluation for the Project. 11

- claiming a less than significant impact without conducting a quantified HRA to nearby, existing sensitive receptors as a result of Project construction, the DEIR fails to compare the excess health risk to the SCAQMD's specific numeric threshold of 10 in one million. Thus, the DEIR cannot conclude less than significant health risk impacts resulting from Project construction without quantifying emissions to compare to the proper threshold.

(Hagemann at 8-10.)

Furthermore, when Mr. Hagemann and Dr. Rosenfeld prepared a simple screening-level HRA, the results demonstrated and provided substantial evidence there may be a significant environmental impact. (*Id.* at 10-13.) Specifically, "[t]he excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest receptor…[is] approximately 68 in one million." (*Id.* at 13.) As Mr. Hagemann and Dr. Rosenfeld point out, this figure is well north of SCAQMD's threshold one in ten million. The DEIR should be amended and include an accurate analysis that analyzes the Project's health risks relating to air quality. 11

E. The City's Final Environmental Impact Report Does Not Adequately Describe the Project

Generally, an adequate EIR must be "prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal. App. 4th 20, 26.) And while a project's description can account for needed flexibility to respond to changing project conditions, the description, in any event, needs to be accurate and specific enough to make a reasonable assessment of its sufficiency. (See *Citizens for a Sustainable Treasure Island v City & County of San Francisco* (2014) 227 Cal. App. 4th 1036, 1053.) A project description that omits integral components of the project may result in an EIR that fails to disclose all of the impacts of the project. (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal. App. 3d 818, 829 [project description for sand and gravel mine omitted water pipelines serving project].) 12

As part of the CEQA Guidelines provisions governing the environmental setting, the Guidelines require an EIR to discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. (CEQA Guidelines § 15125(d).) An "applicable" plan is a plan that has already been adopted and thus legally applies to a project; draft plans need not be evaluated. (*Chaparral Greens v. City of Chula Vista* (1996) 50 Cal. App. 4th 1134, 1145 fn. 2.) The purpose of the required analysis is to identify inconsistencies that the lead agency should address.

The Project site has an existing General Plan land use designation of Professional and Administrative Office (PAO), and a zoning designation of Light Industrial (M-1). The Project seeks to change these designations through amendments to District Center (DC) and Specific Development (SD), respectively, to allow for a primarily residential mixed-use development.

If there is an inconsistency with the applicable land use plans that will not be amended, as of now, there is no way for anyone to make that determination. (See, generally, *The Highway 68 Coalition v. County of Monterey* (2017) 14 Cal. App. 5th 883, 896 [consistency of development permit and development plan with general plan]; *Clover Valley Found. v. City of Rocklin* (2011) 197 Cal. App. 4th 200, 239 [consistency of development project with general plan]; *No Oil, Inc. v. City of Los Angeles* (1987) 196 Cal. App. 3d 223 [consistency of zoning ordinance with general plan]; *Mitchell v. County of Orange* (1985) 165 Cal. App. 3d 1185 [consistency of specific plan with general plan].)

The DEIR's project description states that it is requesting to change the site's land use designations, but fails to specifically identify *what* provisions those new designations may include and *what* will change from the existing land use regime. Importantly, the request for a zoning amendment to SD is vague and lacks detail sufficient to allow for any real comparison to the site's underlying and applicable land use designations. The SD for the site should outline all standards for buildings, height, setbacks, lot coverage, minimum unit sizes, landscaping, parking, signs, fences, or other features. This information cannot be found in the DEIR which merely requests the change to a SD from M-1 zoning without any commitment to details. For example: 12

- states the setbacks from Warner Avenue will be 12-feet and 20-feet from Red Hill Avenue, with "courtyard and landscape areas [providing] additional setbacks…"
- "The proposed setbacks along N. Main Street and Edgewood Road would be greater than the minimum setbacks required in the M-1 zone."

(DEIR at 5.9-40.)

What are the remaining setback requirements? What are the landscaping requirements? How will parking requirements be determined or will it be consistent with other DC mixed-use developments? None of these important and required specifications are provided in the DEIR. For all these reasons, the Project's description is inadequate and should be revised with additional detail.

F. <u>The Final EIR Impermissibly Defers the Development of Environmental Mitigation Measures</u>

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CEQA mitigation measures proposed and adopted into an environmental impact report are required to describe what actions that will be taken to reduce or avoid an

environmental impact. (CEQA Guidelines § 15126.4(a)(1)(B) [providing "[f]ormulation of mitigation measures should not be deferred until some future time."].) While the same Guidelines section 15126.5(a)(1)(B) acknowledges an exception to the rule against deferrals, but such exception is narrowly proscribed to situations where "measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way." (*Id.*) Courts have also recognized a similar exception to the general rule against deferral of mitigation measures where the performance criteria for each mitigation measure is identified and described in the EIR. (*Sacramento Old City Ass'n v. City Council* (1991) 229 Cal. App. 3d 1011.)

Impermissible deferral can occur when an EIR calls for mitigation measures to be created based on future studies or describes mitigation measures in general terms but the agency fails to commit itself to specific performance standards. (*Preserve Wild Santee v. City of Santee* (2012) 210 Cal. App. 4th 260, 281 [city improperly deferred mitigation to butterfly habitat by failing to provide standards or guidelines for its management]; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App. 4th 645, 671 [EIR failed to provide and commit to specific criteria or standard of performance for mitigating impacts to biological habitats]; see also *Cleveland Nat'l Forest Found. v San Diego Ass'n of Gov'ts* (2017) 17 Cal. App. 5th 413, 442 [generalized air quality measures in the EIR failed to set performance standards]; *California Clean Energy Comm. v City of Woodland* (2014) 225 Cal. App. 4th 173, 195 [agency could not rely on a future report on urban decay with no standards for determining whether mitigation required]; *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal. App. 4th 681, 740 [agency could not rely on future rulemaking to establish specifications to ensure emissions of nitrogen oxide would not increase because it did not establish objective performance criteria for measuring whether that goal would be achieved]; *Gray v. County of Madera* (2008) 167 Cal. App. 4th 1099, 1119 [rejecting mitigation measure requiring replacement water to be provided to neighboring landowners because it identified a general goal for mitigation rather than specific performance standard]; *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal. App. 4th 777, 794 [requiring report without established standards is impermissible delay].)

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1. *The DEIR Defers Development of Hazardous Materials Mitigation Measures*

The DEIR's HAZ-1 mitigation measure is impermissibly deferred because the proposed mitigation is to develop a Soil Management Plan in the future which "would detail hazardous materials excavation and disposal methods and requirements pursuant to [the applicable codes] that regulates the removal, transportation, and disposal of hazardous waste…" (DEIR at 5.7-22; DEIR at 5.7-30 (no specification for how contaminated soil will be removed); 5.9-25-26.) The DEIR fails to provide a specific plan or how compliance with any applicable code will sufficiently mitigate a known hazard on the site. The Project site "contains 900 cubic yards of contaminated soil that would require excavation and disposal." (*Id.*) The mitigation measures for HAZ-2 are similarly deferred due to the same reliance on a Soil Management Plan to remove contaminants that has not been formulated. 13

The DEIR needs to specify the removal plan and how code compliance will ensure safe removal of contaminants.

2. *The DEIR Impermissibly Defers Development of Noise Mitigation Measures*

The Project is located near low-density residential housing and other nearby sensitive receptors which would be directly impacted by construction noise. The DEIR, in MM NOI-1 proposes a construction noise mitigation program that would include noise barriers, noise-reduction devices on construction equipment, distanced placement of noise-generating devices, and notice to nearby residents regarding noise at new construction phases. All of these proposed items are impermissibly deferred for specific formulation at a later date. (See DEIR at 4.9-14-15.)

First, the noise barriers that are proposed "could consist of materials such as ¾-inch thick plywood." There is no way to evaluate the sufficiency of the barrier with this description. The Project calls for, generally, "feasible noise-reduction devices" but does not specify what these devices will be. It calls for stationary noise sources to "be located as far away from noise-sensitive land uses as feasible" without detailing how that would or could be determined, or how placement will be decided for effectiveness. 14

Second, MM NOI-2 calls for the applicant to retain a specialist to review the project plans and incorporate specific measures to mitigate noise that generally will reduce noise levels below specific levels, but fails to provide any specific of such a plan in the

DEIR that could be evaluated for adequacy. All of these measures should provide additional details so that they may be evaluated and were impermissibly deferred. 14

G. The DEIR Fails to Support Its Findings with Substantial Evidence

When new information is brought to light showing that an impact previously discussed in the DEIR but found to be insignificant with or without mitigation in the DEIR's analysis has the potential for a significant environmental impact supported by substantial evidence, the EIR must consider and resolve the conflict in the evidence. (See *Visalia Retail, L.P. v. City of Visalia* (2018) 20 Cal. App. 5th 1, 13, 17; see also *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th 1099, 1109.) While a lead agency has discretion to formulate standards for determining significance and the need for mitigation measures—the choice of any standards or thresholds of significance must be "based to the extent possible on scientific and factual data and an exercise of reasoned judgment based on substantial evidence. (CEQA Guidelines § 15064(b); *Cleveland Nat'l Forest Found. v. San Diego Ass'n of Gov'ts* (2017) 3 Cal. App. 5th 497, 515; *Mission Bay Alliance v. Office of Community Inv. & Infrastructure* (2016) 6 Cal. App. 5th 160, 206.) And when there is evidence that an impact could be significant, an EIR cannot adopt a contrary finding without providing an adequate explanation along with supporting evidence. (*East Sacramento Partnership for a Livable City v. City of Sacramento* (2016) 5 Cal. App. 5th 281, 302.) 15

In addition, a determination that regulatory compliance will be sufficient to prevent significant adverse impacts must be based on a project-specific analysis of potential impacts and the effect of regulatory compliance. In *Californians for Alternatives to Toxics v. Department of Food & Agric.* (2005) 136 Cal. App. 4th 1, the court set aside an EIR for a statewide crop disease control plan because it did not include an evaluation of the risks to the environment and human health from the proposed program but simply presumed that no adverse impacts would occur from use of pesticides in accordance with the registration and labeling program of the California Department of Pesticide Regulation. (See also *Ebbetts Pass Forest Watch v Department of Forestry & Fire Protection* (2008) 43 Cal. App. 4th 936, 956 (fact that Department of Pesticide Regulation had assessed environmental effects of certain herbicides in general did not excuse failure to assess effects of their use for specific timber harvesting project).)

1. *The DEIR's Noise Impact Analysis is Not Supported by Substantial Evidence*

The DEIR incorrectly concludes, without substantial evidence, that the proposed Project will not have a substantial impact relating to noise on its future residents or workers in the area. The Project Applicant and City conducted no on-site study to determine aircraft noise levels from John Wayne Airport at the site and rely solely on the fact that the Project is located outside the 60 decibel or higher contour zone for the airport to conclude there will be no significant noise impact. This analysis fails because it needs to include site-specific facts and application relating to the actual aircraft noise levels and their effects.[1] A more detailed analysis of this issue can be found below under section III of this comment letter.

2. *The DEIR Finding That the Project's Conflict with the John Wayne Airport Environs Land Use Plan (LU-2) and that the Project Would Not Result in Excessive Noise for a Project Subject to an Airport Land Use Plan (HAZ-5) is Mitigated to Less Than Significant Levels is Not Supported by Substantial Evidence* 15

The Project has the potential to expose residents of the Project to significant aviation noise conflicts with the John Wayne Airport Environs Land Use Plan Policies 3.2.1 and 3.2.4; as well as a conflict with the City of Santa Ana's General Plan Goals 1, Policy 1.3 (DEIR at 5.7-26, 5.9-22.) The Project site is 2 miles from John Wayne Airport and within that airport's flight path. Although the EIR theorizes without supporting evidence that impacts may be insignificant because the site is outside the 60 CNEL contour for excessive noise, it nevertheless also proposes that the Project will comply with Title 24 of the California Code on interior noise levels, which could (again theoretically) ensure a less than significant impact with mitigation. This mitigation measure is impermissibly deferred because there is no project-specific analysis relating to how compliance with the noise code sections will sufficiently mitigate potential noise impacts on residents.

The DEIR needs to specify how code compliance will ensure safe and insignificant noise levels for residents and works on the site.

3. *The DEIR's Aesthetics Analysis is Not Supported by Substantial Evidence* 16

[1] See The Bowery, Noise Impact Analysis, Dec. 3, 2019. Available at https://ceqanet.opr.ca.gov/2019080011/3/Attachment/jsSwJ-.

The DEIR concludes that would not have a significant aesthetic impact as to emitting substantial light or glare based upon stated future compliance with the Santa Ana Municipal Code that provides for building lighting specifications. However, the Project fails to analyze how compliance with the Code will adequately mitigate the substantial new source of light the Project will create. The DEIR states that Santa Ana Municipal Code sections 41-611.1 and 41-1304 "provides specifications for shielding lighting away from adjacent uses and intensity of security lighting." But how will this mitigate the significant impact on aesthetics for the Project? And just because the Project will comply with the City's lighting regulations does not mean that the amount of light created for a project of this magnitude, in a currently non-residential area, will be adequately mitigated. California law requires a project-specific application and analysis; and the Project fails to provide a project-specific analysis of how code compliance translates to sufficient mitigation

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4. *The DEIR's Air Quality Analysis is Not Supported by Substantial Evidence*

According to Mr. Hagemann and Dr. Rosenfeld, the DEIR's air quality analysis is fundamentally flawed because the input parameters used with CalEEMod provided in Appendix B to the DEIR "were not consistent with information disclosed in the DEIR." (Hagemann at 2.) As a result, "the Project's construction and operational emissions are underestimated" and a new EIR should be prepared. (*Id.*)

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i. Unsubstantiated changes were made to vehicle emissions factors

The first flaw in the input parameters, according to Mr. Hagemann and Dr. Rosenfeld, is that "vehicle emissions factors used to estimate the proposed Project's operational emissions were changed from the CalEEMod default values without proper justification." (*Id.*) Unverified and manually inputted values were used in the model which cannot be relied upon. (*Id.*)

ii. *Pass-by trip percentages utilized in the model are inconsistent with the Traffic Impact Analysis*

Second, "the Project's CalEEMod output files […] are inconsistent with the pass-by trip percentages indicated by the Traffic Impact Analysis…" (*Id.*) According to the information provided by Mr. Hagemann and Dr. Rosenfeld, and because the information provided is inconsistent, "the model may underestimate the Project's

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mobile-related operational emissions and should not be relied upon to determine Project significance." (*Id.* at 3.) 18

iii. Saturday and Sunday trip rates are incorrect.

Third, Mr. Hagemann and Dr. Rosenfeld's review of the Project's DEIR also revealed that "the total daily trips calculated for Saturday and Sunday were underestimated for each of the proposed land uses." (*Id.* at 3-4.) The DEIR actually indicates that the number of vehicle trips is higher than the input parameter figures used in CalEEMod and thus the trip estimates are incorrect and cannot be relied upon. (*Id.* at 5.) 19

iv. Commercial-work trip length inputs are unjustified

Fourth, "the commercial-work (C-W) trip length was manually increased in [CalEEMod]…" and the DEIR fails to provide any justification for this increase. (*Id.* at 5.) Because no rationale or justification was provided—the model cannot be relied upon. 20

v. Pass-by and diverted trip percentages are unjustified

Lastly, the DEIR's "pass-by and diverted trip percentages used in [CalEEMod] were manually altered" and so the DEIR "underestimates the Project's operational emissions." (*Id.* at 5; additional detail on p. 6.) According to Mr. Hagemann and Dr. Rosenfeld, it is clear that "the model overestimates the existing land use's mobile-related operational emissions and should not be relied upon to determine Project significance." (*Id.*) The new values provided in the DEIR were not adequately justified either because the reduction in pass-by and diverted trips is not substantiated. (*Id.* at 6.) 21

For all of the above reasons, the DEIR's air quality analysis is flawed because it is not supported by substantial evidence. The EIR should be amended to adequately reflect the true input parameters so that a reasonably accurate estimate of air quality impacts can be analyzed and mitigated.

H. <u>The City Failed to Include All Relevant Projects in its Cumulative Impacts Transportation/Traffic Analysis</u>

An EIR's discussion of cumulative impacts is required by CEQA Guidelines §15130(a). The determination of whether there are cumulative impacts in any issue area should be determined based on an assessment of the project's incremental effects "viewed in connection with the effects of past projects, the effects of other current 22

projects, and the effects of probable future projects." (CEQA Guidelines §15065(a)(3); *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal. App. 4th 1209, 1228; see also CEQA Guidelines §15355(b).)

A cumulative impacts analysis must include all "past, present, and probably future projects producing related or cumulative impacts" or "[a] summary of projections contained in an adopted local, regional or statewide plan, or related planning document." (CEQA Guidelines 15130(b)(1-2)). A probable future project should be considered once the environmental review for the project is underway. (*San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal. App. 3d 61.)

The City identified eleven projects in Santa Ana, eight in Irvine, five in Tustin, and two in Newport Beach when calculating the cumulative impacts for its transportation analysis. While a list approach is acceptable under CEQA, the list must include all past, present, and probably future projects that could contribute to the Project's impacts. This cumulative impact analysis is flawed and should be updated to include, at least, the potential impacts of the Congregate Care Facility and Staybridge Hotel in Irvine.[2] The Congregate Care Facility is a 424,113 square foot facility located just two miles south of the Project site; and the 200+ room Staybridge Hotel will be located just one mile west of the Project site. The Congregate Care Facility project has already been approved by the City of Irvine; and the Staybridge Hotel is currently under construction. Both projects should be considered in the City's CEQA analysis. 22

I. The DEIR Fails to Describe or Adopt Feasible Mitigation Measures

A fundamental purpose of an EIR is to identify ways in which a proposed project's significant environmental impacts can be mitigated or avoided. (Pub. Resources Code §§21002.1(a), 21061.) To implement this statutory purpose, an EIR must describe feasible mitigation measures that can minimize the project's significant environmental effects. (CEQA Guidelines §§15121(a), 15126.4(a).) "A gloomy forecast of environmental degradation is of little or no value without pragmatic, concrete means to minimize the impacts and restore ecological 23

[2] The location and development stage of these projects may be found at https://cityofirvine.maps.arcgis.com/apps/MapTour/index.html?appid=0429065850ec4dcab5ba5856a497f42a.

equilibrium." (*Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal. App. 4th 1018, 1039.)

1. *The Project Is Required to Adopt Additional Feasible Mitigation Measures to Mitigation Construction Emissions*

According to Mr. Hagemann and Dr. Rosenfeld, the following feasible mitigation measures should also be considered and implemented to alleviate the significant impact of construction-related emissions for the Project:

- Diesel Control Measures recommended by the Northeast Diesel Collaborative (NEDC);
- Repowering or replacing older construction equipment engines;
- Installation of retrofit devices on existing construction equipment;
- Use of electric and hybrid construction equipment;
- Implementation of a construction vehicle tracking system; and
- Use of spray equipment with greater transfer efficiencies.

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(Hagemann at 14-19.)

2. *The Project is Required to Adopt Feasible Additional Mitigation Measures to Mitigate Operational Emissions*

Second, the Project DEIR estimated the annual GHG emissions to be 9,861.60 megatons per year (MT CO2e/year), which far exceeds the SCAQMD Tier 3 mixed-use threshold of 3,000 MT CO2e/year. (Hagemann at 14.) In order to mitigate this impact, the Project merely proposes implementing sustainable design features under Title 24/CalGreen standards—but much more can and should be considered for the Project. following mitigation measures for GHG emissions are feasible but were not considered or implemented for the Project, including:

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- Integrate affordable and below market rate housing;
- Energy-related mitigation:

  Install programmable thermostat timers;

  Establish onsite renewable energy systems, including solar power and wind power;

Limit outdoor lighting requirements;

Reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting;

Provide education on energy efficiency to residents, customers, and/or tenants;

Provide information on energy management services for large energy users;

Meet "reach" goals for building energy efficiency and renewable energy use;

Limit the use of outdoor lighting to only that needed for safety and security purposes;

Require use of electric or alternatively fueled sweepers with HEPA filters;

Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use; and

Prohibit gas powered landscape equipment and implement electric yard equipment compatibility.

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- Transportation-related mitigation:

  Provide EV parking;

  Require residential area parking permits;

  Implement ride-sharing, vanpool, shuttle, bike-sharing programs;

  Provide bike parking near transit;

  Provide local shuttles;

  Implement area or cordon pricing; and

  Install a park-and-ride lot.

- Water-related mitigation:

  Install an infiltration basin to provide an opportunity for 100% of the storm water to infiltrate on-site;

Install a system to reutilize gray water;

Use locally-sourced water supply; and

Plant native and drought-resistant trees and vegetation.

- Develop and follow a "green streets guide" that requires:

  Use of minimal amounts of concrete and asphalt; and

  Use of groundcovers rather than pavement to reduce heat reflection.

- Implement Project design features such as:

  Shade HVAC equipment from direct sunlight;

  Install high-albedo white thermoplastic polyolefin roof membrane;

  Install formaldehyde-free insulation;

  Use recycled-content gypsum board; and

  Require all buildings to become "LEED" and "WELL" certified.

- Plant low-VOC emitting shade trees, e.g., in parking lots to reduce evaporative emissions from parked vehicles;

- Increase in insulation such that heat transfer and thermal bridging is minimized;

- Limit air leakage through the structure and/or within the heating and cooling distribution system;

- Installation of dual-paned or other energy efficient windows; and

- Installation of automatic devices to turn off lights where they are not needed.

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(Hagemann at 14-19.)

All of the above measures are feasible to reduce the significant impacts to air quality and GHG emissions; and the DEIR's failure to consider or implement any of the above measures if a violation of CEQA Guidelines §§15121(a), 15126.4(a). The DEIR needs to be amended as a result.

III. THE PROJECT VIOLATES THE STATE PLANNING AND ZONING LAW AS WELL AS THE CITY'S GENERAL PLAN

A. Background Regarding the State Planning and Zoning Law

Each California city and county must adopt a comprehensive, long-term general plan governing development. (*Napa Citizens for Honest Gov. v. Napa County Bd. of Supervisors* (2001) 91 Cal. App.4th 342, 352, citing Gov. Code §§ 65030, 65300.) The general plan sits at the top of the land use planning hierarchy (See *DeVita v. County of Napa* (1995) 9 Cal. App. 4th 763, 773), and serves as a "constitution" or "charter" for all future development. (*Lesher Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal. App. 3d 531, 540.)

General plan consistency is "the linchpin of California's land use and development laws; it is the principle which infused the concept of planned growth with the force of law." (See *Debottari v. Norco City Council* (1985) 171 Cal. App. 3d 1204, 1213.)

State law mandates two levels of consistency. First, a general plan must be internally or "horizontally" consistent: its elements must "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." (See Gov. Code § 65300.5; *Sierra Club v. Bd. of Supervisors* (1981) 126 Cal. App. 3d 698, 704.) A general plan amendment thus may not be internally inconsistent, nor may it cause the general plan as a whole to become internally inconsistent. (See *DeVita*, 9 Cal. App. 4th at 796 fn. 12.) 25

Second, state law requires "vertical" consistency, meaning that zoning ordinances and other land use decisions also must be consistent with the general plan. (See Gov. Code § 65860(a)(2) [land uses authorized by zoning ordinance must be "compatible with the objectives, policies, general land uses, and programs specified in the [general] plan."]; see also *Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal. App. 3d 1176, 1184.) A zoning ordinance that conflicts with the general plan or impedes achievement of its policies is invalid and cannot be given effect. (See *Lesher*, 52 Cal. App. 3d at 544.)

State law requires that all subordinate land use decisions, including conditional use permits, be consistent with the general plan. (See Gov. Code § 65860(a)(2); *Neighborhood Action Group*, 156 Cal. App. 3d at 1184.)

A project cannot be found consistent with a general plan if it conflicts with a general plan policy that is "fundamental, mandatory, and clear," regardless of whether it is

consistent with other general plan policies. (See *Endangered Habitats League v. County of Orange* (2005) 131 Cal. App. 4th 777, 782-83; *Families Unafraid to Uphold Rural El Dorado County v. Bd. of Supervisors* (1998) 62 Cal. App. 4th 1332, 1341-42 ["*FUTURE*"].) Moreover, even in the absence of such a direct conflict, an ordinance or development project may not be approved if it interferes with or frustrates the general plan's policies and objectives. (See *Napa Citizens*, 91 Cal. App. 4th at 378-79; see also *Lesher*, 52 Cal. App. 3d at 544 [zoning ordinance restricting development conflicted with growth-oriented policies of general plan].)

A. Changing the Project Site's General Plan Designation to a District Center conflict with the City's General Plan

Here, the Project proposes a General Plan Land Use Amendment that would change the land use designation from PAO for professional or administrative offices to District Center (DC) to allow for a mixed-use residential development.

The Project's mixed-use, primarily residential, development plans for the construction of a multi-building project with approximately 80 residential units on each acre of the site. The maximum allowable units for a DC zone is 90 units per acre. A DC land use designation, according to the City of Santa Ana's General Plan – Land Use Element, is: (1) reserved for "***major activity areas*** in the City"; (2) designed to "serve as anchors to the City's commercial corridors…"; and (3) "are to be developed with an urban character that includes a mixture of highrise office, commercial, and residential uses which provide shopping, business, cultural education, recreation, entertainment, and housing opportunities."[3] 25

The proposed change is inconsistent with the General Plan's guidance on designation of DCs because the Project site area (and the entire surrounding area within the City), off Red Hill Avenue and east of SR-55, is exclusively designated for light industrial and commercial use and is not connected to any of the City's existing commercial corridors, and is not a major activity area in the City relating to urban life in any respect.[4] (DEIR at 3-5, Figure 3-2.) The Project site area is surrounded by open spaces and office parks, and would not be consistent with the character of any existing DC in the City of Santa Ana. DCs are reserved for mixed-use developments that seek to be

[3] City of Santa Ana, General Plan – Land Use Element, p. 60. Available at https://www.santa-ana.org/sites/default/files/pb/general-plan/LandUse.pdf.

[4] *Id.* at A-25, Exhibit A-5. This exhibit of the City's General Plan maps the existing District Centers of Santa Ana.

integrated within the fabric of existing Santa Ana urban life—not on the outskirts of the City within an office park zone that is disconnected from major activity centers.

The fact that the proposed Project will be located adjacent to the City of Tustin's Legacy Specific Plan area does not save the proposed change in land use designation either. This area is current massively underdeveloped, and as the Applicant points out, will only meet the current character of the site's existing land use designation for commercial use. (DEIR at 5.9-13.) And in any event, any result of the building up of the Legacy Area in the future will not connect the Project to any of the ***City's major activity areas***. The Applicant cannot depend on contingent plans in other cities to support its proposed change. 25

The proposed change to a DC is not consistent with the language or intent of the City's General Plan and should be revised.

B. The DEIR's Proposed Zoning Change to a Specific Development District Conflicts with the City's General Plan.

The Applicant also seeks to amend the site's zoning designation from M1-Light Industrial to a Specific Development District (SD). This zoning change would conflict with the City's General Plan because the Project site is not appropriate for a General Plan amendment to a DC and thus the underlying zoning change would also be inappropriate. SDs are designed to facilitate certain types of development within suitable DCs.[5]

C. The Proposed Land Use Amendments Conflict with Orange County's Land Use Plan for John Wayne Airport

California requires every county with an airport that includes use by a scheduled airline, or where the airport is operated for the benefit of the general public, to establish an airport land use commission (ALUC). The purpose of the ALUC is to provide for orderly development and expansion of airports and adoption of "land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses." (Cal. P.U.C. §21670(a).) ALUCs cannot exempt a city or county's specific plan (i.e., the portion of the locality's general plan affecting land in the vicinity of an airport) from compliance with the ALUC's more stringent compatibility 26

[5] City of Santa Ana, General Plan – Housing Element, p. 57. Available at https://www.santa-ana.org/sites/default/files/Housing%20Element.pdf.

standards for land use and development density. (87 Ops. Cal. Atty. Gen. 102 (2004).) However, Cal. P.U.C. §21676 provides a procedure for resolving such conflicts. All general or specific plans, zoning ordinances, building regulations, or modifications that purport to affect land within the planning boundaries of an ALUC must be submitted by the city, county, or regional authority proposing the action to review by the ALUC. If the ALUC finds that there is an inconsistency between its ALUCP and the proposed regulation, the ALUC must notify the local agency of its determination. The local agency must then hold a public hearing on the matter and may override the determination of the ALUC only by a two-thirds vote of its legislative body and after specified findings are made. (Gov. Code §65302.3; Cal. P.U.C. §21676.)

The proposed Project is a mere 2.2 miles southwest of John Wayne Airport (JWA) and within its planning area boundaries. If any part of the Project conflicts with JWA's Airport Environs Land Use Plan (AELUP; hereafter "JWA AELUP"), the City shall seek review to obtain approval. Here, the proposed change in land use is inconsistent with the JWA AELUP. The record does not contain substantial evidence that future residents would not be adversely affected by aircraft noise. (DEIR at 5.9-22.) Policy 3.2.1 under the JWA AELUP finds an inconsistency with any proposed land use that will put residents in a position "so that they are affected adversely by aircraft noise."[6] An adverse noise impact under the JWA AELUP is defined under a "reasonable person" standard found in the Noise Standards for California Airports. 26

The DEIR concludes that there would be no adverse impact as a result of aircraft noise, but not as a result of any field study the Applicant or City performed on the site. This conclusion is based solely on the fact that the site is "located outside the airport's 60 CNEL contours." (DEIR at 5.7-26; Noise Impact Analysis at 1.) As the DEIR admits, residential land uses are only "normally consistent" with areas just beyond 60 CNEL contours. The Orange County Airport Land Use Commission also strongly recommended in its NOP comments that no residential units should be built on the proposed Project site, or at least a significantly reduced number to adequately mitigate the noise impacts. (DEIR at 5.9-3.) This indicates further information is needed to assess the actual decibel level on-site and whether that meets a reasonable person standard as defined in the Noise Standards for California Airports.

[6] JWA AELUP, p. 21, available at http://www.ocair.com/commissions/aluc/docs/jwa_aelup-april-17-2008.pdf.

IV. CONCLUSION

Commenters request that the City revise and recirculate the Project's environmental impact report to address the aforementioned concerns. If the City has any questions or concerns, feel free to contact my Office. 27

Sincerely,

Mitchell M. Tsai
Attorneys for Southwest Regional
Council of Carpenters

ATTACHED:

Air Quality and GHG Expert, Matt Hagemann, P.G., C.Hg. – C.V. (**Exhibit A**);

Air Quality and GHG Expert, Paul Rosenfeld, P.G., C.Hg. – C.V. (**Exhibit B**);

Letter and attachments from Hagemann to Mitchell M. Tsai re Comments on The Bowery Mixed-Use Project (**Exhibit C**);

California Air Pollution Control Officers Association (CAPCOA) Report: Quantifying Greenhouse Gas Mitigation Measures (**Exhibit D**).

EXHIBIT A

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

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

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

Education:

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

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

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

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 150 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

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

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

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

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

Hydrogeology:

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

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

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

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

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

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

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

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

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

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

Policy:

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

Activities included the following:

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

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

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

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

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

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

Teaching:

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

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

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Experience:

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

EXHIBIT B

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

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

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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*, 70, 002252-002255.

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*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

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Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

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Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

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Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

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Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 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*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

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Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

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Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conference*. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation*. Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest*. Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell*. Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

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Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

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

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May 11, 2020

Mitchell M. Tsai
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Subject: Comments on the Bowery Mixed-Use Project (SCH No. 2019090011)

Dear Mr. Tsai,

We have reviewed the January 2020 Draft Environmental Impact Report ("DEIR") for the Bowery Mixed-Use Project ("Project") located in the City of Santa Ana ("City"). The Project proposes to demolish three existing buildings totaling 212,121-square feet in order to construct 1,150 multi-family residential units and 80,000-square feet of commercial retail/restaurant space, including an 18,000-square foot retail shopping center, 5,000-square foot fast casual restaurant, 25,000-square foot quality restaurant, 25,000-square foot high turnover sit down restaurant, 5,000-square foot fast food restaurant, and 2,000-square foot coffee/donut shop. The Project also proposes to construct 183,363-square feet of open space and recreation amenities and 2,355 parking spaces on the 14.58-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's Air Quality, Health Risk, and Greenhouse Gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential air quality and health risk impacts that the project may have on the surrounding environment. 28

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2.[1] CalEEMod provides recommended default values based on site-specific information, such as land use type,

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

CalEEMod separates the operational trip purposes into three categories: primary, diverted, and pass-by trips. According to Appendix A of the CalEEMod User's Guide, the primary trips utilize the complete trip lengths associated with each trip type category. Diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route.[5] Review of the Project's CalEEMod output files demonstrates that the trip purpose percentages are inconsistent with the trip purpose percentages indicated by the DEIR (see excerpt below) (Appendix B, pp. 330, 391).

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	83	0	17
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	31	0	69
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	21	0	79
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	22	0	78
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	24	0	76

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As you can see in the excerpt above, the model assumes a 3% pass-by percentage for the apartment land use, 17% for the fast food restaurant without drive-through, 69% for the fast food with drive-through, 79% for the high turnover (sit down restaurant), 76% for quality restaurant, and 76% for regional shopping center. However, these values are inconsistent with the pass-by trips indicated by the DEIR. Based on the DEIR's Proposed Project Trip Generation table, the apartment and parking land uses are not expected to generate any pass-by trips, the fast food restaurant without drive through is expected to generate 17%, the fast food restaurant with drive-through is expected to generate 31%, the high turnover (sit down) restaurant is expected to generate 21%, the quality restaurant is expected to generate 22%, and the regional shopping center/retail land use is expected to generate 24% (5.14-11, Table 5.14-5). By including primary trip percentages that are inconsistent with information provided in the DEIR, the model may underestimate the Project's mobile-related operational emissions and should not be relied upon to determine Project significance.

Use of Incorrect Saturday and Sunday Trip Rates

Review of the Project's CalEEMod output files demonstrates that the Saturday and Sunday trip rates inputted into the model are incorrect. The number of daily trips, including pass-by trips, are indicated in the DEIR (see excerpt below) (p. 5.14-11, Table 5.14-5).

- the apartment land use is estimated to generate 6,092 daily trips;
- the high-turnover sit down restaurant is expected to generate 2,740 daily trips;
- the retail land use is expected to generate 636 daily trips;
- the quality restaurant is expected to generate 2,067 daily trips;
- the fast casual restaurant is expected to generate 1,564 daily trips;

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[5] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." *SCAQMD, available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20

- the fast-food restaurant without drive-through window is expected to generate 1,693 daily trips; and
- the coffee/donut shop without drive-through window is expected to generate 1,607 trips.

Table 5.14-5 Proposed Project Trip Generation

		A.M. Peak Hour			P.M. Peak Hour			
Land Use	**Units**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**Daily**
Future Uses								
Apartments								
Trip Generation Rates [1]		0.09	0.27	0.36	0.27	0.17	0.44	5.44
Trip Generation	1,150 DU	108	306	414	309	197	506	6,256
Internal Trips [2]		(6)	(63)	(69)	(58)	(37)	(95)	(164)
Total Net Trip Generation		*102*	*243*	*345*	*251*	*160*	*411*	*6,092*
High-Turnover Sit Down Restaurant								
Trip Generation Rates [3]		5.47	4.47	9.94	6.06	3.71	9.77	112.18
Trip Generation	25.000 TSF	137	112	249	151	94	245	2,805
Internal Trips [2]		(27)	(3)	(29)	(15)	(20)	(36)	(65)
External Trips		110	109	220	136	74	209	2,740
Pass-By Trips		0	0	0	(58)	(32)	(90)	(589)
Total Net Trip Generation		*110*	*109*	*220*	*77*	*42*	*119*	*2,151*
Retail								
Trip Generation Rates [4]		0.58	0.36	0.94	1.83	1.98	3.81	37.75
Trip Generation	18.000 TSF	10	7	17	33	36	69	680
Internal Trips [2]		(3)	(2)	(5)	(20)	(19)	(39)	(44)
External Trips		7	5	12	13	17	30	636
Pass-By Trips		(2)	(1)	(3)	(4)	(6)	(10)	(153)
Total Net Trip Generation		*5*	*4*	*9*	*9*	*11*	*20*	*483*
Quality Restaurant								
Trip Generation Rates [5]		0.37	0.37	0.73	5.23	2.57	7.80	83.84
Trip Generation	25.000 TSF	9	9	18	131	64	195	2,096
Internal Trips [2]		(2)	(0)	(2)	(13)	(14)	(27)	(29)
External Trips		7	9	16	118	50	168	2,067
Pass-By Trips		0	0	0	(52)	(22)	(74)	(455)
Total Net Trip Generation		*7*	*9*	*16*	*66*	*28*	*94*	*1,612*
Fast Casual Restaurant								
Trip Generation Rates [6]		1.39	0.68	2.07	7.77	6.36	14.13	315.17
Trip Generation	5.000 TSF	7	3	10	39	32	71	1,576
Internal Trips [2]		(1)	(0)	(1)	(4)	(7)	(11)	(12)
External Trips		6	3	9	35	25	60	1,564
Pass-By Trips		0	0	0	(15)	(11)	(26)	(336)
Total Net Trip Generation		*6*	*3*	*9*	*20*	*14*	*34*	*1,228*
Fast-Food Restaurant without Drive-Through Window								
Trip Generation Rates [7]		15.06	10.04	25.10	14.17	14.17	28.34	346.23
Trip Generation	5.000 TSF	75	51	126	71	71	142	1,731
Internal Trips [2]		(15)	(1)	(16)	(7)	(15)	(23)	(38)
External Trips		60	50	110	64	56	119	1,693
Pass-By Trips		(24)	(19)	(43)	(26)	(22)	(48)	(660)
Total Net Trip Generation		*37*	*30*	*67*	*38*	*33*	*72*	*1,033*
Coffee/Donut Shop without Drive-Through Window								
Trip Generation Rates [8]		45.38	43.61	88.99	21.69	21.69	43.38	820.38
Trip Generation	2.000 TSF	91	87	178	43	44	87	1,641
Internal Trips [2]		(18)	(2)	(20)	(4)	(10)	(14)	(34)
External Trips		73	85	158	39	34	73	1,607
Pass-By Trips		(61)	(71)	(131)	(32)	(29)	(61)	(1,334)
Total Net Trip Generation		*12*	*14*	*27*	*7*	*6*	*12*	*273*

However, review of the Project's CalEEMod output files reveals that the total daily trips calculated for Saturday and Sunday were underestimated for each of the proposed land uses (see excerpt below) (Appendix B, pp. 329, 390).

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4.2 Trip Summary Information

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
Apartments Mid Rise	6,095.00	5,497.00	4577.00
Enclosed Parking with Elevator	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	1,606.76	171.76	171.76
Fast Food Restaurant with Drive Thru	3,257.00	4,996.40	4996.40
High Turnover (Sit Down Restaurant)	2,739.50	2,989.00	3483.25
Other Asphalt Surfaces	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00
Quality Restaurant	2,067.00	2,219.75	1774.25
Regional Shopping Center	635.58	776.52	355.14
Total	16,400.84	16,650.43	15,357.80

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As you can see in the excerpt above, the total number of vehicle trips for Saturday and Sunday are lower than those indicated by the DEIR for the apartments, fast food restaurant with and without drive through, high turnover (sit down) restaurant, quality restaurant, and regional shopping center. Thus, the trip rates inputted into the model for these land uses are underestimated and as a result, the model incorrectly estimates the Project's operational mobile-source emissions.

Unsubstantiated Reduction in Commercial-Work Trip Length in Existing Model

Review of the Project's CalEEMod output files demonstrates that the commercial-work (C-W) trip length was manually increased in the model without adequate justification. As a result, the model may underestimate the Project's operational emissions.

Review of the Project's CalEEMod output files demonstrates that the Project's C-W trip length was manually increased from the default value of 16.60 miles to 40 miles (see excerpt below) (Appendix B, pp. 562, 620).

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Table Name	Column Name	Default Value	New Value
tblVehicleTrips	CW_TL	16.60	40.00

As previously stated, the CalEEMod User Guide requires that any non-default values inputted must be justified.[6] However, review of the "User Entered Comments & Non-Default Data" table demonstrates that this change was not justified or even addressed. The DEIR and associated appendices also fail to address this reduction. As a result, we cannot verify that this trip length is accurate and, as a result, the model should not be relied upon to determine Project significance.

Use of Incorrect Trip Purpose Percentages in Existing Model

Review of the Project's CalEEMod output files demonstrates that the pass-by and diverted trip percentages used in the model were manually altered without sufficient justification. As a result, the model underestimates the Project's operational emissions.

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[6] Supra, fn 1, p. 7, 13.

CalEEMod separates the operational trip purposes into three categories: primary, diverted, and pass-by trips. According to Appendix A of the CalEEMod User's Guide, the primary trips utilize the complete trip lengths associated with each trip type category. Diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route.[7] Review of the Project's CalEEMod output files demonstrates that all of the trips were assumed to be primary, with pass-by and diverted trips artificially reduced to zero (see excerpt below) (Appendix B, pp. 446, 504, 562, 620).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	2.00	0.00
tblVehicleTrips	PR_TP	79.00	100.00

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As you can see in the excerpt above, the diverted and pass-by trips were manually reduced to zero, while the primary trips were increased to 100 percent in the model. As previously stated, the CalEEMod User's Guide requires that any non-default values inputted into the model must be justified.[8] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Trip Rates based on information provided in the Trip Generation" (Appendix B, pp. 401, 459, 517, 575). However, the trip generation indicated in the DEIR fails to substantiate the reduction of pass-by or diverted trips in the existing model. Thus, the model overestimates the existing land use's mobile-related operational emissions and should not be relied upon to determine Project significance.

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR determines that the Project's operational VOC emissions would exceed the applicable SCAQMD threshold (see excerpt below) (p. 5.2-17, Table 5.2-8).

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[7] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." *SCAQMD, available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20

[8] Supra, fn 1, p. 7, 13.

Table 5.2-8: Summary of Operational Emissions

Operational Activities	Emissions (lbs/day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source	35.19	20.17	103.39	0.13	2.07	2.07
Energy Source	0.86	7.65	5.05	0.05	0.60	0.60
Mobile Source	38.31	68.83	280.70	0.75	73.61	20.13
Total Project Daily Emissions	**74.36**	**96.65**	**389.14**	**0.93**	**76.27**	**22.80**
Existing Emissions	***11.14***	***143.55***	***48.79***	***0.45***	***18.81***	***6.63***
Net Emissions (Project – Existing)	63.23	-052	-0.42	-3.12e-03	-0.04	-0.04
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**Yes**	**No**	**No**	**No**	**No**	**No**
Winter Scenario						
Area Source	35.19	20.17	103.39	0.13	2.07	2.07
Energy Source	0.86	7.65	5.05	0.05	0.60	0.60
Mobile Source	40.17	70.98	278.52	0.73	73.60	20.13
Total Project Daily Emissions	**76.23**	**98.80**	**386.96**	**0.90**	**76.26**	**22.80**
Existing Emissions	***10.90***	***146.09***	***39.59***	***0.45***	***18.74***	***6.61***
Net Emissions (Project – Existing)	65.33	-0.52	-0.42	0.00	-0.04	-0.04
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Urban Crossroads, 2019.

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The DEIR goes on to claim,

> "As shown, emissions from operation of the proposed Project would exceed the threshold of significance for VOCs. The majority of VOC emissions would be derived from consumer products and mobile activity. Consumer products include cleaning supplies, kitchen aerosols, cosmetics and toiletries, the use of which cannot be controlled by the City. Likewise, vehicular emissions cannot be controlled by either the Project applicant or the City. There are no feasible mitigation measures that would reduce VOC emissions to below the SCAQMD threshold. Therefore, operational emissions would be significant and unavoidable" (p. 5.2-16).

However, while we agree that the Project would result in a significant VOC impact, the DEIR's conclusion that these impacts are "significant and unavoidable" is incorrect. According to the California Environmental Quality Act (CEQA),

> "CEQA requires Lead Agencies to mitigate or avoid significant environmental impacts associated with discretionary projects. Environmental documents for projects that have any significant environmental impacts must identify all feasible mitigation measures or alternatives to reduce the impacts below a level of significance. If after the identification of all feasible mitigation measures, a project is still deemed to have significant environmental impacts, the Lead Agency can approve a project, but must adopt a Statement of Overriding Consideration to explain why

> further mitigation measures are not feasible and why approval of a project with significant unavoidable impacts is warranted." [9]

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation is considered. However, as previously stated, the DEIR determines that "[t]here are no feasible mitigation measures that would reduce VOC emissions to below the SCAQMD threshold" (p. 5.2-16). However, this is incorrect, and as a result, mitigation measures should be identified and incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Operational Emissions,"[10] in order to reduce the Project's air quality impacts to the maximum extent possible. Until all feasible mitigation is reviewed and incorporated into the Project, impacts from operational VOC cannot be considered significant and unavoidable. 34

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the Project's construction and operational health risk impacts would be less than significant without conducting a quantified construction or operational health risk assessment (HRA). More specifically, the DEIR attempts to justify this claim by stating:

> "According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed" (Appendix B, pp. 49).

The DEIR goes on to state, 35

> "Results of the LST analysis indicate that, with application of mitigation, the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentration during Project construction. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during operational activity...Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations" (Appendix B, pp. 54).

However, these justifications and subsequent less than significant impact finding are incorrect for several reasons.

First, the use of the LST method to determine the Projects health risk impacts on nearby, existing sensitive receptors is incorrect. While the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the Final Localized Significance Threshold Methodology document prepared by the SCAQMD, the LST analysis is only applicable to NO_x,

[9] http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, p. 115 of 125
[10] See section titled "Feasible Mitigation Measures Available to Reduce Operational Emissions" on p. 19 of this comment letter. These measures would effectively reduce operational VOC emissions.

CO, PM_{10}, and $PM_{2.5}$ emissions, which are collectively referred to as criteria air pollutants.[11] Because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether emissions from DPM, a known human carcinogen, will result in a significant health risk impact to nearby sensitive receptors. As a result, health impacts from exposure to toxic air contaminants (TACs), such as diesel particulate matter (DPM), were not analyzed, thus leaving a gap within the DEIR's analysis.

Second, the omission of a quantified HRA is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing guidance on conducting HRAs in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*.[12] This guidance document describes the types of projects that warrant the preparation of an HRA. Construction of the Project will produce emissions of DPM, a human carcinogen, through the exhaust stacks of construction equipment over a construction period of approximately 26 months (Appendix B, pp. 247). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[13] Therefore, per OEHHA guidelines, we recommend that health risk impacts from Project construction be evaluated by the DEIR. Furthermore, once construction of the Project is complete, the Project will operate for a long period of time. As previously stated, Project operation will generate approximately 11,546 daily vehicle trips, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 5.14-11, Table 5.14-5). The OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR).[14] Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risks from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 2-month and 6-month requirements set forth by OEHHA. This guidance reflects the most recent health risk policy, and as such, we recommend that an updated assessment of health risks to nearby sensitive receptors from Project construction and operation be included in a revised CEQA evaluation for the Project. 35

Third, by claiming a less than significant impact without conducting a quantified HRA to nearby, existing sensitive receptors as a result of Project construction, the DEIR fails to compare the excess health risk to

[11] "Final Localized Significance Threshold Methodology." SCAQMD, Revised July 2008, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf.
[12] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html
[13] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18
[14] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-6, 8-15

the SCAQMD's specific numeric threshold of 10 in one million.[15] Thus, the DEIR cannot conclude less than significant health risk impacts resulting from Project construction without quantifying emissions to compare to the proper threshold. 35

Screening-Level Assessment Indicates Significant Impact

In an effort to demonstrate the potential risk posed by Project construction and all Project operation to nearby sensitive receptors, we prepared a simple screening-level HRA. The results of our assessment, as described below, provide substantial evidence that the Project's construction and operational DPM emissions may result in a potentially significant health risk impact not previously identified by the DEIR.

In order to conduct our screening level risk assessment, we relied upon AERSCREEN, which is a screening level air quality dispersion model.[16] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[17] and the California Air Pollution Control Officers Associated (CAPCOA)[18] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project. 36

We prepared a preliminary HRA of the Project's construction and operational health-related impact to residential sensitive receptors using the annual PM_{10} exhaust estimates from CalEEMod. For the Project's construction emissions, we used the CalEEMod output files provided in the DEIR. For the Project's operational emissions, we used SWAPE's updated operational CalEEMod output files and subtracted SWAPE's updated existing (passenger cars) and updated existing (trucks) CalEEMod output files. According to the DEIR, the closest sensitive receptor is located approximately 440 meters south of the Project site (p. 5.2-11). Consistent with recommendations set forth by OEHHA, we assumed exposure begins during the third trimester stage of life. The Project's construction CalEEMod output files indicate that construction activities will generate approximately 507 pounds of diesel particulate matter (DPM) over the 795-day construction period. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

[15] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, April 2019, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

[16] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

[17] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

[18] "Health Risk Assessments for Proposed Land Use Projects," CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{506.6\ lbs}{795\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.003346\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.003346 grams per second (g/s). Subtracting the 795-day construction duration from the total residential duration of 30 years, we assumed that after Project construction, the sensitive receptor would be exposed to the Project's operational DPM for an additional 27.82 years, approximately. The Project's operational CalEEMod emissions, calculated by subtracting the existing emissions from the proposed Project, indicate that operational activities will generate approximately 530 pounds of DPM per year throughout operation. Applying the same equation used to estimate the construction DPM rate, we estimated the following emission rate for Project operation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{530.2\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.007626\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.007626 g/s. Construction and operational activity was simulated as a -acre rectangular area source in AERSCREEN with dimensions of 254.4 meters by 232 meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution. 36

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[19] AS previously stated, there are residential sensitive receptors located approximately 440 meters from the Project site. The single—hour concentration estimated by AERSCREEN for Project construction is approximately 0.5355 µg/m^3 DPM at approximately 450 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration 0.05355 µg/m^3 for Project construction at the nearest sensitive receptor. For Project operation, the single-hour concentration is estimated by AERSCREEN is approximately 1.220 µg/m^3 at approximately 450 meters downwind. Multiplying this single- hour concentration by 10%, we get an annualized average concentration of 0.122 µg/m^3 for Project operation at the nearest sensitive receptor.

We calculated the excess cancer risk to the closest sensitive receptor using applicable HRA methodologies prescribed by OEHHA and the SCAQMD. Consistent with the construction schedule included in the DEIR, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.93 years of the infantile stage of life (0 – 2

[19] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." EPA, 1992, *available at*: http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf; *see also* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 4-36

years). The annualized average concentration for operation was used for the remainder of the 30-year exposure period, which makes up the remainder of the infantile stage of life (0 – 2 years), child stages of life (2 – 16 years) and adult stages of life (16 – 30 years). Consistent with OEHHA, SCAQMD, BAAQMD, and SJVAPCD guidance, we used Age Sensitivity Factors (ASFs) to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[20, 21, 22, 23] According to this guidance, the quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant) as well as multiplied by a factor of three during the child stage of life (2 to 16 years). We also included the quantified cancer risk without adjusting for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution in accordance with older OEHHA guidance from 2003. This guidance utilizes a less health protective scenario than what is currently recommended by SCAQMD, the air quality district responsible for the City, and several other air districts in the state. Furthermore, in accordance with guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[24] Finally, according to SCAQMD guidance, we used a Fraction of Time At Home (FAH) Value of 1 for the 3rd trimester and infant receptors.[25] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below. 36

The Closest Exposed Individual at an Existing Residential Receptor

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	Cancer Risk without ASFs*	ASF	Cancer Risk with ASFs*
Construction	0.25	0.05355	361	7.3E-08	10	7.3E-07

[20] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[21] "Draft Environmental Impact Report (DEIR) for the Proposed The Exchange (SCH No. 2018071058)." SCAQMD, March 2019, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/march/RVC190115-03.pdf?sfvrsn=8, p. 4.
[22] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 56; see also "Recommended Methods for Screening and Modeling Local Risks and Hazards." BAAQMD, May 2011, *available at:* http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx, p. 65, 86.
[23] "Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document." SJVAPCD, May 2015, *available at:* https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf, p. 8, 20, 24.
[24] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 19.
"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf
[25] "Risk Assessment Procedures for Rules 1401, 1401.1, and 212." SCAQMD, August 2017, *available at:* http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.

3rd Trimester Duration	***0.25***			***7.3E-08***	***3rd Trimester Exposure***	***7.3E-07***
Construction	1.93	0.05355	1090	1.7E-06	10	1.7E-05
Operation	0.07	0.122	1090	1.4E-07	10	1.4E-06
Infant Exposure Duration	***2.00***			***1.8E-06***	***Infant Exposure***	***1.8E-05***
Operation	14.00	0.122	572	1.5E-05	3	4.4E-05
Child Exposure Duration	***14.00***			***1.5E-05***	***Child Exposure***	***4.4E-05***
Operation	14.00	0.122	261	4.9E-06	1	4.9E-06
Adult Exposure Duration	***14.00***			***4.9E-06***	***Adult Exposure***	***4.9E-06***
Lifetime Exposure Duration	**30.00**			**2.2E-05**	**Lifetime Exposure**	**6.8E-05**

* We, along with CARB and SCAQMD, recommend using the more updated and health protective 2015 OEHHA guidance, which includes ASFs.

The excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest receptor, located approximately 450 meters away, over the course of Project construction and operation, utilizing age sensitivity factors, are approximately 4.9, 44, 180, and 0.73 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years) at the closest receptor, with age sensitivity factors, is approximately 68 in one million. The infant, child, and lifetime cancer risks, using age sensitivity factors, all exceed the SCAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the DEIR. Results without age sensitivity factors are presented in the table above, although we **do not** recommend utilizing these values for health risk analysis, as they are less conservative and health-protective according to the most recent guidance. Regardless, the excess cancer risk over the course of a residential lifetime (30 years) at the closest receptor, without age sensitivity factors, is approximately 22 in one million. Thus, the Project may result in a significant impact regardless of the use of age sensitivity factors. 36

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. The purpose of the screening-level construction HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level construction HRA indicates a potentially significant impact, an updated CEQA analysis should include a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, an updated CEQA analysis should include a quantified air pollution model as well as an updated, quantified

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refined health risk assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation. 36

Greenhouse Gas

Failure to Implement All Feasible Mitigation

The DEIR concludes that the proposed Project would result in 9,861.60 megatons of CO_2 equivalents per year (MT CO_2e/year), which would exceed the SCAQMD Tier 3 mixed-use screening threshold of 3,000 MT CO_2e/year (p. 5.6-22). As a result, the DEIR concludes that the Project's GHG impact would be potentially significant (p. 5.6-22).

In an attempt to mitigate this impact, the DEIR states:

> "The Project would include sustainable design features and comply with Title 24/CalGreen standards; however, approximately 60 percent of the GHG emissions would be generated by vehicle trips. Neither the Project Applicant nor the Lead Agency (City of Santa Ana) can substantively or materially reduce the vehicular-source GHG emissions" (p. 5.6-22).

Despite complying with Title 24 and CalGreen standards, the DEIR states that the Project's GHG impact would be significant and unavoidable (p. 5.6-22). However, while we agree that the Project's GHG impact would be significant, the DEIR's assertion that the Project's GHG impact would be unavoidable and cannot be mitigated further is incorrect. According to CEQA Guidelines § 15096(g)(2), 37

> "When an EIR has been prepared for a project, 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."

As you can see, an impact can only be labeled as significant and unavoidable after all available, feasible mitigation is considered.[26] Review of the Project's proposed mitigation measures, however, demonstrates that the DEIR fails to implement all feasible mitigation. Therefore, the DEIR's conclusion that impacts are significant and unavoidable is unsubstantiated. As a result, additional mitigation measures should be identified and incorporated in an updated EIR in order to reduce the Project's air quality impacts to the maximum extent possible. Until all feasible mitigation is reviewed and incorporated into the Project's design, impacts from GHG emissions should not be considered significant and unavoidable.

Feasible Mitigation Measures Available to Reduce Construction Emissions

Our analysis demonstrates that, when Project activities are modeled correctly, construction emissions would result in potentially significant impacts. Therefore, additional mitigation measures must be identified and incorporated in a DEIR to reduce these emissions to a less than significant level.

[26] "Final Draft Guidance for Assessing and Mitigating Air Quality Impacts." SVJUAPCD, February 2015, *available at:* http://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF, p. 115.

Additional mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce GHG levels, as well as reduce criteria air pollutants such as particulate matter and NOx.[27] DPM and NOx are a byproduct of diesel fuel combustion and are emitted by on-road vehicles and by off-road construction equipment. Mitigation for criteria pollutant emissions should include consideration of the following measures in an effort to reduce construction emissions.[28] 37

Require Implementation of Diesel Control Measures

The Northeast Diesel Collaborative (NEDC) is a regionally coordinated initiative to reduce diesel emissions, improve public health, and promote clean diesel technology. The NEDC recommends that contracts for all construction projects require the following diesel control measures: [29]

- All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85 percent.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[30] approved by the original engine manufacturer with sulfur content of 15 parts per million (ppm) or less. 38

Repower or Replace Older Construction Equipment Engines

The NEDC recognizes that availability of equipment that meets the EPA's newer standards is limited.[31] Due to this limitation, the NEDC proposes actions that can be taken to reduce emissions from existing equipment in the *Best Practices for Clean Diesel Construction* report.[32] These actions include but are not limited to:

- Repowering equipment (i.e. replacing older engines with newer, cleaner engines and leaving the body of the equipment intact). 39

Engine repower may be a cost-effective emissions reduction strategy when a vehicle or machine has a long useful life and the cost of the engine does not approach the cost of the entire vehicle or machine. Examples of good potential replacement candidates include marine vessels, locomotives, and large construction machines.[33] Older diesel vehicles or machines can be repowered with newer diesel engines or in some cases with engines that operate on alternative fuels. The original engine is taken out of service and a new engine with reduced emission characteristics is installed. Significant emission

[27] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[28] For measures to reduce operational DPM emissions, see section titled "Additional Feasible Mitigation Measures Available to Reduce Operational Emissions" on p. 25 of this letter. These measures would effectively reduce operational VOC and NOx emissions, DPM emissions, as well as GHG emissions.
[29] Diesel Emission Controls in Construction Projects, *available at*:http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf
[30] Biodiesel lends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf
[31] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[32] http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf
[33] Repair, Rebuild, and Repower, EPA, *available at*:https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#repair

reductions can be achieved, depending on the newer engine and the vehicle or machine's ability to accept a more modern engine and emission control system. It should be noted, however, that newer engines or higher tier engines are not necessarily cleaner engines, so it is important that the Project Applicant check the actual emission standard level of the current (existing) and new engines to ensure the repower product is reducing emissions for DPM.[34]

- Replacement of older equipment with equipment meeting the latest emission standards. 39

Engine replacement can include substituting a cleaner highway engine for a nonroad engine. Diesel equipment may also be replaced with other technologies or fuels. Examples include hybrid switcher locomotives, electric cranes, LNG, CNG, LPG or propane yard tractors, forklifts or loaders. Replacements using natural gas may require changes to fueling infrastructure.[35] Replacements often require some re-engineering work due to differences in size and configuration. Typically, there are benefits in fuel efficiency, reliability, warranty, and maintenance costs.[36]

Install Retrofit Devices on Existing Construction Equipment

PM emissions from alternatively-fueled construction equipment can be further reduced by installing retrofit devices on existing and/or new equipment. The most common retrofit technologies are retrofit devices for engine exhaust after-treatment. These devices are installed in the exhaust system to reduce emissions and should not impact engine or vehicle operation. [37] It should be noted that actual emissions reductions and costs will depend on specific manufacturers, technologies and applications. 40

Use Electric and Hybrid Construction Equipment

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[38] report also proposes the use of electric and/or hybrid construction equipment as a way to mitigate DPM emissions. When construction equipment is powered by grid electricity rather than fossil fuel, direct emissions from fuel combustion are replaced with indirect emissions associated with the electricity used to power the equipment. Furthermore, when construction equipment is powered by hybrid-electric drives, emissions from fuel combustion are also greatly reduced. Electric construction equipment is available commercially from companies such as Peterson Pacific Corporation,[39] which specialize in the mechanical processing equipment like grinders and shredders. Construction equipment powered by hybrid-electric drives is also commercially available from companies such as Caterpillar.[40] For example, Caterpillar reports that 41

[34] Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Projects Information, *available at*:http://www2.epa.gov/sites/production/files/2015-09/documents/420p11001.pdf
[35] Alternative Fuel Conversion, EPA, *available at:* https://www3.epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm#fact
[36] Cleaner Fuels, EPA, *available at*:https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#cleaner
[37] Retrofit Technologies, EPA, *available at*:https://www.epa.gov/verified-diesel-tech/learn-about-verified-technologies-clean-diesel#retrofit
[38]http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[39] Peterson Electric Grinders Brochure, *available at*:http://www.petersoncorp.com/wp-content/uploads/peterson_electric_grinders1.pdf
[40] Electric Power Products, *available at*:http://www.cat.com/en_US/products/new/power-systems/electric-power-generation.html

during an 8-hour shift, its D7E hybrid dozer burns 19.5 percent fewer gallons of fuel than a conventional dozer while achieving a 10.3 percent increase in productivity. The D7E model burns 6.2 gallons per hour compared to a conventional dozer which burns 7.7 gallons per hour.[41] Fuel usage and savings are dependent on the make and model of the construction equipment used. The Project Applicant should calculate project-specific savings and provide manufacturer specifications indicating fuel burned per hour. 41

Implement a Construction Vehicle Inventory Tracking System

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[42] report recommends that the Project Applicant provide a detailed plan that discusses a construction vehicle inventory tracking system to ensure compliances with construction mitigation measures. The system should include strategies such as requiring engine run time meters on equipment, documenting the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment and daily logging of the operating hours of the equipment. Specifically, for each on-road construction vehicle, nonroad construction equipment, or generator, the contractor should submit to the developer's representative a report prior to bringing said equipment on site that includes:[43]

- Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number.
- The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level.
- The Certification Statement[44] signed and printed on the contractor's letterhead. 42

Furthermore, the contractor should submit to the developer's representative a monthly report that, for each on-road construction vehicle, nonroad construction equipment, or generator onsite, includes: [45]

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

[41] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[42] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
[43] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf
[44] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf The NEDC Model Certification Statement can be found in Appendix A.
[45] Diesel Emission Controls in Construction Projects, *available at:* http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf

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In addition to these measures, we also recommend that the Project implement the following mitigation measures, called "Enhanced Exhaust Control Practices,"[46] that are recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD):

1. The project representative shall submit to the lead agency a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.
    - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
    - The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
    - This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment.
    - The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
2. The project representative shall provide a plan for approval by the lead agency demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.
    - This plan shall be submitted in conjunction with the equipment inventory.
    - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
    - The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
3. The project representative shall ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.
    - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to the lead agency monthly.
    - A visual survey of all in-operation equipment shall be made at least weekly.
    - A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

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[46] http://www.airquality.org/ceqa/Ch3EnhancedExhaustControl_10-2013.pdf

4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.

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Use of Spray Equipment with Greater Transfer Efficiencies

Various coatings and adhesives are required to be applied by specified methods such as electrostatic spray, high-volume, low-pressure (HVLP) spray, roll coater, flow coater, dip coater, etc. in order to maximize the transfer efficiency. Transfer efficiency is typically defined as the ratio of the weight of coating solids adhering to an object to the total weight of coating solids used in the application process, expressed as a percentage. When it comes to spray applications, the rules typically require the use of either electrostatic spray equipment or HVLP spray equipment. The SCAQMD is now able to certify HVLP spray applicators and other application technologies at efficiency rates of 65 percent or greater.[47]

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These measures offer a cost-effective, feasible way to incorporate lower-emitting equipment into the Project's construction fleet, which subsequently reduces construction emissions. A revised EIR must be prepared to include additional mitigation measures, as well as include an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions. Furthermore, the updated EIR needs to demonstrate commitment to the implementation of these measures prior to Project approval to ensure that the Project's construction-related emissions are reduced to the maximum extent possible.

Feasible Mitigation Measures Available to Reduce Operational Emissions

Our analysis demonstrates that the Project's air quality and GHG emissions may result in a potentially significant impact. In an effort to reduce the Project's operational emissions, we identified several mitigation measures that are applicable to the Project. Feasible mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*, which attempt to reduce GHG levels, as well as reduce criteria air pollutants, such as particulate matter emissions.[48] Therefore, to reduce the Project's operational emissions, consideration of the following measures should be made.

- Integrate affordable and below market rate housing
- Energy-related mitigation:
  - Install programmable thermostat timers
  - Establish onsite renewable energy systems, including solar power and wind power
  - Limit outdoor lighting requirements
  - Reduce unnecessary outdoor lighting by utilizing design features such as limiting the hours of operation of outdoor lighting.
  - Provide education on energy efficiency to residents, customers, and/or tenants. Provide information on energy management services for large energy users.
  - Meet "reach" goals for building energy efficiency and renewable energy use.
  - Limit the use of outdoor lighting to only that needed for safety and security purposes.

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[47] http://www.aqmd.gov/home/permits/spray-equipment-transfer-efficiency
[48] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

- Require use of electric or alternatively fueled sweepers with HEPA filters.
- Include energy storage where appropriate to optimize renewable energy generation systems and avoid peak energy use.
- Prohibit gas powered landscape equipment and implement electric yard equipment compatibility

- Transportation-related mitigation:
  - Provide EV parking
  - Require residential area parking permits
  - Implement ride-sharing, vanpool, shuttle, bike-sharing programs
  - Provide bike parking near transit
  - Provide local shuttles
  - Implement area or cordon pricing
  - Install a park-and-ride lot
- Water-related mitigation:
  - Install an infiltration basin to provide an opportunity for 100% of the storm water to infiltrate on-site.
  - Install a system to reutilize gray water
  - Use locally-sourced water supply
  - Plant native and drought-resistant trees and vegetation

- Develop and follow a "green streets guide" that requires:
  - Use of minimal amounts of concrete and asphalt;
  - Use of groundcovers rather than pavement to reduce heat reflection.[49]
- Implement Project design features such as:
  - Shade HVAC equipment from direct sunlight;
  - Install high-albedo white thermoplastic polyolefin roof membrane;
  - Install formaldehyde-free insulation; and
  - Use recycled-content gypsum board.
  - Require all buildings to become "LEED" and "WELL" certified.
- Plant low-VOC emitting shade trees, e.g., in parking lots to reduce evaporative emissions from parked vehicles.

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Finally, the Kimball Business Park Project Final Environmental Impact Report includes various feasible mitigation measures that would reduce on-site area emissions that are applicable to the proposed Project's retail land use, and include, but are not limited to:[50]

- Increase in insulation such that heat transfer and thermal bridging is minimized.
- Limit air leakage through the structure and/or within the heating and cooling distribution system.

[49] Cool Houston Plan;
http://www.harcresearch.org/sites/default/files/documents/projects/CoolHoustonPlan_0.pdf
[50] Mitigation Monitoring Plan for the Kimball Business Park Project Final Environmental Impact Report, July 2016.

- Installation of dual-paned or other energy efficient windows.
- Installation of automatic devices to turn off lights where they are not needed.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduces emissions released during Project operation. An updated EIR should be prepared to include additional mitigation measures, as well as include an updated air quality analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR also needs to demonstrate commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible. 44

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties. 45

Sincerely,

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

Paul E. Rosenfeld, Ph.D.

Technical Attachments to Comment Letter PC2 Exhibit C are provided is Attachment 1 herein. Please note Exhibit D to Comment Letter PC2 is an EIR in San Diego and appears to be a mistake as it is unrelated to this comment letter. As such, it is excluded form this response.

Response to Mitchell M. Tsai Comment Letter dated May 11, 2020

Comment 1: The comment provides an introductory statement and notes the comments on the Final EIR are submitted on behalf of the Southwest Regional Council of Carpenters that is a labor union representing 50,000 carpenters. The comment also provides generalized information about the provision of comments under CEQA, and requests future notices about the Project. In addition, the comment states that the city must consider proposing that the Applicant provide additional community benefits such as requiring local hire and paying prevailing wages to benefit the City.

Response 1: The comment is general in nature. This comment from an attorney for the Southwest Carpenters Union provides an introduction to comments and includes background information on the Southwest Carpenters and CEQA and associated regulations. The comment requests additional community benefits but does not provide any substantive comments or questions about the content of the EIR. Therefore, no further response is required. However, the City acknowledges that the commenter will receive future CEQA notices regarding the project.

Comment 2: The comment states that the letter includes comments related to air quality and greenhouse gas from Matt Hagemann, P.G., C.Hg. and Paul Rosenfeld, Ph.D. concerning the Draft EIR. The comment asserts they are technical experts, and their Curriculum Vitae (CV) is attached to the letter.

Response 2: The comment provides background information related to the commenters, is general in nature, and does not provide any substantive comments or questions about the content of the EIR. Therefore, no further response is required.

Comment 3: The comment provides a summary of CEQA requirements through references to case law and statutes. The comment states that CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures, and that the EIR's function is to provide a full understanding of the environmental consequences of projects.

Response 3: The comment is general in nature and does not identify any specific alleged deficiency with the analysis in the EIR. Therefore, no further response is required.

Comment 4: The comment asserts that the EIR does not maintain a stable and consistent project description because the Final EIR identifies modifications to the Project that include changes to the commercial space, landscaping, and the ratio of required parking spaces that the Project would provide per residential unit.

Response 4: Since publication of the Notice of Preparation, the Project description has remained stable and proposes to redevelop the Project site with up to 80,000 square feet of retail and restaurant commercial space and 1,150 multi-family residential units. As detailed in the Final EIR, minor details to the Project site plan have been revised in response to the City's detailed review of the proposal, applicant revisions in response to the City's review, and comments received on the Draft EIR. These revisions include: 1) clarification of the types of retail and restaurants that would be within the 80,000 square feet of proposed commercial space; 2) an increase in residential parking from 1.7 spaces per unit to 2.0 spaces per unit to be consistent with similar developments within the City; and 3)(in response to SCAQMD comments) requiring the Project to provide information to commercial tenants about the availability of electric landscaping equipment through SCAQMD's Commercial Electric Lawn and Garden Equipment Incentive and Exchange Program.

The CEQA process provides for revisions to environmental analysis in response to response to comments and/or any other information added by the Lead Agency (CEQA Guidelines Section 15132(e)).

Additionally, these minor revisions to the Project would not result in any new significant impacts. The clarification of the types of retail and restaurants that would be within the 80,000 square feet of proposed commercial space are evaluated in the Final EIR Traffic Impact Analysis and revised EIR traffic Section, which is provided in Chapter 3 of the Final EIR, and details that no new impacts would occur. Also, the change to the residential parking spaces was initiated to provide consistency with other similar developments in the City and to meet the anticipated parking need of the Project. The addition of 0.3 parking spaces per residential unit within the same development area would provide additional parking flexibility for Project residents and their guests and would not result in new impacts. Also, the addition of PDF AQ-1 that would provide information about SCAQMD's Commercial Electric Lawn and Garden Equipment Incentive and Exchange Program was provided in response to the SCAQMD comment letter that was received. The intent of the measure is to encourage the use of electric landscaping equipment instead of gas-powered equipment, which generates larger volumes of air pollutants. Implementation of the measure is intended to reduce onsite emissions; and therefore, would not result in new impacts.

Comment 5: The comment asserts that modifications to the Project require recirculation of the EIR because the Project's transportation analysis was revised based upon modifications to the Project. The comment states that because VMT analysis and transportation analysis are required under CEQA, the failure of the Draft EIR to include this information was an unlawful omission of information that requires revision and recirculation and the Draft EIR was fundamentally and basically inadequate.

Response 5: CEQA Guidelines Section 15088.5 sets forth the circumstances under which a lead agency must recirculate an EIR. A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR but before certification of the Final EIR has occurred. Such information can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not considered "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. As defined in CEQA Guidelines Section 15088.5(a), significant new information requiring recirculation is that which shows any of the following:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
4. The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The Draft EIR adequately analyzes the environmental effects of the proposed Project, and the conclusions in the Draft EIR are supported by substantial evidence in the record. None of the conditions requiring recirculation listed in CEQA Guidelines Section 15088.5 have been triggered, and recirculation of the Draft EIR is not required. The minor clarifications, Project modifications, and editorial corrections made to the Draft EIR are shown in Chapter 3 of the Final EIR. None of the revisions that have been made to the Project or Draft EIR indicate new significant impacts or a substantial increase in the severity of an environmental impact identified in the Draft EIR; and, none of the revisions identify a feasible project alternative or mitigation measure that is considerably different from those set forth in the Draft EIR and

which will lessen the environmental impacts of the Project. Furthermore, no new information brought forward indicates that the Draft EIR is so fundamentally flawed that it precludes meaningful public review. As none of the CEQA criteria for recirculation have been met, recirculation of the EIR is not warranted. As stated in CEQA Guidelines Section 15088.5(b), "recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR."

As described in Response 4, the Final EIR evaluates revisions to the types of retail and restaurants that would be within the 80,000 square feet of proposed commercial space, which was evaluated in the Final EIR Traffic Impact Analysis and revised EIR traffic section, which is provided in Chapter 3 of the Final EIR, and details that no new impacts would occur. In addition, both the VMT analysis within the Draft EIR and Final EIR detail that significant impacts related to VMT would not occur from the Project. Therefore, all impacts have been adequately disclosed, and because no new information has been presented identifying new or different environmental impacts as a result of implementing the proposed Project, recirculation of the EIR is not warranted.

Comment 6: The comment asserts that Draft EIR falsely claimed that the Project site is listed as a hazardous material site and failed to discuss the fact that the site may be located within a groundwater basin that is impacted by volatile organic compounds. The comment also asserts that the Draft EIR fails to disclose OCHA investigation data and potential risk to future receptors associated with groundwater contamination at the Project site. The comment further states that this requires revision and recirculation since the Draft EIR.

Response 6: The comment is an inaccurate assertion. Section *5.7*, *Hazards and Hazardous Materials*, of the Draft EIR (page *5.7*-25), describes that the Project site is not included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Section 65962.5(a)(4) requires that DTSC shall compile and update as appropriate, a list of hazardous substance release sites subject to a response action. The DTSC's list of sites are published in the DTSC "Envirostor" database at the following weblink: https://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST. In addition, the sites are mapped on the DTSC website: https://www.envirostor.dtsc.ca.gov. The Project site is not on the DTSC list or mapping.

Regarding groundwater contamination, the history of onsite groundwater testing is provided in the Phase I Environmental Site Assessment in 2018, a Phase II Environmental Site Assessment in 2018, and a Limited Phase II Subsurface Investigation Report in 2019, which are provided as Appendix F of the Draft EIR. In addition, information is provided in Draft EIR Section *5.8*, *Hydrology and Water Quality*. Specifically, areas of existing groundwater contamination are detailed on pages 5.8-6 through 5.8-9. As detailed on page *5.5-5* of the Draft EIR, the onsite borings conducted for the Project found groundwater between 24 to 33 feet below ground surface (bgs), but the historic high groundwater is approximately 10 feet below the existing grade. Due to the depth of groundwater, operation of the proposed residential and commercial uses would not result in contact with groundwater. Likewise, construction of the project is not anticipated to encounter groundwater.

However, in the case that groundwater is encountered during Project construction, existing regulations require it to be treated and discharged. The federal Occupational Safety and Health Act Safety and Health Regulations for Construction contains requirements for construction activities, including health and safety plan(s). In addition, the CalOSHA required Injury and Illness Prevention Program (IIPP) would maintain worker safety related to potentially contaminated groundwater. Thus, implementation of construction pursuant to existing regulations as ensured through the permitting process would reduce potential impacts related to construction workers who may encounter contaminated groundwater when

excavation is conducted to a less than significant level. The comment has not identified a potentially new impact not described in the EIR. Thus, none of the requirements for recirculation, as listed in CEQA Guidelines Section 15088.5, have been triggered, and recirculation of the Draft EIR is not required.

Comment 7: The comment asserts that the City did not consult the California Department of Toxic Substances Control (DTSC) concerning the EIR, and that the City failed to consult any responsible agencies whatsoever.

Response 7: This comment is an inaccurate assertion. The City consulted with DTSC and all other responsible agencies during preparation of the EIR. As provided in the State Clearinghouse website (https://ceqanet.opr.ca.gov/Project/2019080011) the following responsible agencies were notified about the EIR Notice of Preparation and the Draft EIR: California Air Resources Board, California Department of Fish and Wildlife, South Coast Region 5, California Department of Housing and Community Development, California Department of Parks and Recreation, California Department of Water Resources, California Governor's Office of Emergency Services, California Highway Patrol, California Native American Heritage Commission, California Natural Resources Agency, California Regional Water Quality Control Board - Santa Ana Region 8, State Water Resources Control Board Division of Drinking Water, Department of Toxic Substances Control, California Department of Transportation, District 12. In addition, as identified in Chapter 2 of the Final EIR, the City also consulted with the surrounding Cities of Tustin and Irvine. Furthermore, DTSC provided a comment to the Draft EIR, which was responded to in the Final EIR that was sent to DTSC in response. Thus, the City consulted with the DTSC, in addition to the other responsible agencies.

Comment 8: The comment asserts that Draft EIR included mitigation requiring that "all prospective residents of the Project site shall be notified of airport related noise because the site was identified as being within the Airport Environs Land Use Planning (AELUP) area for John Wayne Airport (JWA). However, the Final EIR determined that the Project Site is not within the Planning Area for JWA. The comment asserts that the change is significant new information requiring revision and recirculation.

Response 8: As described in the Final EIR, the project was determined to not be located within the airport's 55 dBA CNEL aircraft noise level contour boundaries of JWA, and that the residential land use is consistent with JWA aircraft noise exposure exterior noise level compatibility thresholds. Also, the airport related noise at the Project site does not exceed the City's municipal code permissible noise levels for multi-family residential uses. Thus, based on the criteria from the JWA AELUP, Mitigation Measure LU-1, is not applicable to the Project and is no longer required, however will be added as an applicable standard conditions or Plan, Program, Policy (PPP) and will be included in the MMRP. Likewise, potentially significant impacts related to residential land uses and JWA operations would not occur, and impacts would be less than significant. Therefore, no new impacts would occur; and because no new information has been presented identifying new or increased environmental impacts as a result of implementing the proposed Project, recirculation of the Draft EIR is not warranted.

Comment 9: The comment asserts that the Project that will have new, significant and previously undisclosed aesthetic impacts related to two parking structures, one 76 feet in height and the other 70 feet in height. The comment asserts that the aesthetic impact of the height and size of these parking structures were not disclosed or otherwise analyzed in the Draft EIR, and therefore is significant new information requiring revision and recirculation.

Response 9: This comment is an inaccurate assertion. The Draft EIR Section 3.0, *Project Description* (page 3-10), describes the height of the proposed structures. Specifically, it states that the Project would develop 3 mixed use buildings that would be 6-stories in height and one residential building that would be 5-stories

in height. Each building of these buildings would have an adjacent parking structure. Two parking structures would provide 7-levels of above ground parking and two would provide 6 levels of above ground parking. The tallest point of the Project would be approximately 94 feet from the ground level, which would be at the top of the architectural trim of the 6- story buildings. The height and size of the proposed structures are also shown in the Draft EIR Figure 3-4, *Proposed Site Plan* and Figures 5.1-9 through 5.1-11. The tallest building structures are featured on Draft EIR Figures 5.1-10 and 5.1-11. The height and size of the proposed structures (including the parking structures) are evaluated on Draft EIR pages 5.1-24 through 5.1-32, which determined that the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings and would not conflict with applicable zoning and other regulations governing scenic quality. As the information discussed by this comment is included in the EIR, and the analysis has determined that impacts would be less than significant, recirculation of the Draft EIR is not warranted.

Comment 10: The comment asserts that the changes to the Project that will have new, significant undisclosed energy and air quality impacts. The comment states that the Final EIR discloses that rather than having a 24-month construction period as originally discussed, the Final EIR states that the Project will be under construction for 27 months.

Response 10: The Project has always assumed a 27-month construction period, as detailed in Section 3.0, *Project Description* (page 3-19), of the Draft EIR. The comment refers to a typographical error on page 5.4-5 in the Draft EIR, which has been corrected in the Final EIR. In addition, the energy discussion includes other references to the 27-month construction period, which was evaluated in the air quality modeling, and is included as Appendix B of the EIR. Overall, the EIR discloses the air quality emissions and energy usage of the project, which were determined to be less than significant. No new or additional impacts related to air quality and energy would occur.

Comment 11: The comment asserts that the Draft EIR fails to conduct a quantified HRA as a result of diesel particulate matter (DPM) emissions that would be emitted during project activities for nearby existing sensitive receptors. The comment asserts that the construction and operational health risk impacts posed to nearby existing sensitive receptors resulting from the proposed project need to be quantified and compared to applicable thresholds. The comment states that because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether emissions from DPM, will result in a significant health risk impact to nearby sensitive receptors. The comment further states that the EIR should compare emissions from the project to the SCAQMD DPM emissions cancer risk threshold of 10 in one million; and has attached a screening level analysis that asserts that the Project would exceed the threshold.

Response 11: The project does not propose significant operational sources of DPM emissions or other toxic air contaminants (TACs), such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners, or gasoline stations. Only diesel delivery trucks would be considered a TAC source, of which the mixed-use Project would generate a limited amount that would not result in a health risk at the nearby residential receptors.

Additionally, the air quality analysis for the proposed project (Appendix B of the Draft EIR and Section 5.2, *Air Quality*, of the Draft EIR) evaluates both construction and operational emissions that would be generated by the proposed Project and could affect nearby existing sensitive receptors. SCAQMD does not state that construction based HRAs are required. However, as directed by SCAQMD, the local significance thresholds (LSTs) are used to evaluate potential impacts from particulate matter emissions to sensitive receptors in the project's vicinity from project construction. As shown in Table 5.2-9 of the Draft EIR, local construction related emissions would not exceed SCAQMD LST thresholds.

In addition, page 5.2-18 of the Draft EIR describes that the highest trips on a segment of road with the Project traffic is 9,378 vehicles per hour on Jamboree Road and Barranca Parkway. This is much lower than 44,000 vehicles per hour and is not high enough to generate a CO "hot spot" per SCAQMD. Therefore, impacts related to CO "hot spots" that could affect health from operation of the proposed Project would be less than significant.

A HRA analyzing the project's construction emissions of diesel particulate matter is not warranted. The primary purpose of an HRA is to determine long-term health risks, such as cancer risks over, for example, a 30-year residency or 70-year lifetime. As discussed in the EIR, construction of the project would take 27 months. Exposure of such duration would not create long-term health effects to adjacent receptors. Additionally, the City follows SCAQMD guidance for air quality analysis. SCAQMD's HRA procedures recommend evaluating risk from extended exposures measured across several years and not for short term construction exposures or for infrequent operational exposure to diesel truck deliveries or trash hauling. [1]

Urban Crossroads, Inc. has also reviewed the referenced OEHHA Guidance Manual[2] to determine applicability of the use of early life exposure adjustments to diesel particulate matter (DPM) emissions resulting from construction activity.

Specifically, the OEHHA Guidance states "Due to the uncertainty in assessing cancer risk from very short-term exposures, we do not recommend assessing cancer risk for projects lasting less than two months at the MEIR. **We recommend that exposure from projects longer than 2 months but less than 6 months be assumed to last 6 months** (e.g., a 2-month project would be evaluated as if it lasted 6 months)." (2015 Guidance Manual p. 8-18 [emphasis added].)

As such, the determination of whether a construction HRA is warranted is dependent on whether or not early life exposure adjustments apply to DPM emissions resulting from construction activity. The following discussion outlines the substantial evidence to support why early life exposure adjustments are *not* applicable to construction DPM and therefore a construction health risk assessment is not required due to the short-term duration of construction activity (long-term exposure e.g. 9 or 30 years of activity are typically used to generate a risk estimates).

For risk assessments conducted under the auspices of The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588), OEHHA applies specific adjustment factors to all carcinogens regardless of purported mechanism of action. Notwithstanding, applicability of AB 2588 is limited to commercial and industrial operations. There are two broad classes of facilities subject to the AB 2588 Program: 1) Core facilities and 2) facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those facilities whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (e.g., auto body shops, gas stations and dry cleaners using perchloroethylene). The emissions generated from off-road mobile sources are not classified in AB 2588 as core operations nor subject to industry-wide source evaluation.

In comments presented to the South Coast Air Quality Management District (SCAQMD) Governing Board (Meeting Date: June 5, 2015, Agenda No. 28) relating to toxic air contaminant exposures under Rules 1401, 1401.1, 1402 and 212 revisions, use of the OEHHA Guidelines specifically related to the

[1] SCAQMD. 2015. Risk Assessment (RA) Procedures for Rules 1401 and 212. Accessed July 2017 at http://www.aqmd.gov/home/permits/risk-assessment; SCAQMD. 2016. AB2588 Supplemental Guidelines. Accessed July 2017 at http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/health-risk-assessment

[2] http://oehha.ca.gov/air/hot_spots/hotspots2015.html

applicability and use of early-life exposure adjustments for projects subject to CEQA, it was reported that[3]:

> "The Proposed Amended Rules are separate from the CEQA significance thresholds. The SCAQMD staff is currently evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will evaluate a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board. In the interim, staff will continue to use the previous guidelines for CEQA determinations."

To date, the SCAQMD, as a commenting agency, has not conducted public workshops nor developed policy relating to the application of early-life exposure adjustments utilizing the OEHHA Guidance Manual for projects prepared by other public/lead agencies subject to CEQA.

As a result, it is our recommendation that health risk assessments rely upon U.S. EPA documentation when evaluating the use of early life exposure adjustment factors (*Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, EPA/630/R-003F) wherein adjustment factors are only considered when carcinogens act "through the mutagenic mode of action." A mutagen is a physical or chemical agent that changes genetic material, such as DNA, increasing the frequency of mutations to produce carcinogenic effects. The use of adjustment factors is recommended to account for the susceptibility of producing adverse health effects during early life stages from exposure to these mutagenic compounds.

In 2006, U.S. EPA published a memorandum which provides guidance regarding the preparation of health risk assessments should carcinogenic compounds elicit a mutagenic mode of action (USEPA, 2006[4]). As presented in the technical memorandum, numerous compounds were identified as having a mutagenic mode of action. For diesel particulates, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise < 1% of the exhaust particulate mass. To date, the U.S. Environmental Protection Agency reports that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action (USEPA, 2018[5]).

Additionally, the California Department of Toxic Substances Control (DTSC) which is charged with protecting individuals and the environment from the effects of toxic substances and responsible for assessing, investigating and evaluating sensitive receptor populations to ensure that properties are free of contamination or that health protective remediation levels are achieved has adopted the U.S. EPA's policy in the application of early-life exposure adjustments which is consistent with the methodology considered herein. As such, incorporation of early-life exposure adjustments for exposures to DPM emissions in the quantification of carcinogenic risk for construction of the proposed project is not warranted.

Given that there is no available guidance that has been adopted by SCAQMD for CEQA purposes and the fact that the Project does not emit any pollutants that elicit a primary mutagenic mode of action, the use of the OEHHA guidelines to determine potential construction health risks would not be appropriate and therefore is not recommended by the City at this time. The EIR correctly evaluates potential impacts and no further evaluation is technically required.

[3] See Response to Comment #13, Page A-7 and A-8 of the June 5, 2015 board meeting Agenda No. 28. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/2015-jun1-028

[4] United States Environmental Protection Agency, 2006. Memorandum – Implementation of the Cancer Guidelines and Accompanying Supplemental Guidance - Science Policy Council Cancer Guidelines Implementation Workgroup Communication II: Performing Risk Assessments that include Carcinogens Described in the Supplemental Guidance as having a Mutagenic Mode of Action.

[5] United States Environmental Protection Agency, National Center for Environmental Assessment, 2018. Integrated Risk Information System (IRIS). Diesel Engine Exhaust.

Comment 12: The comment asserts that the Final EIR does not adequately describe the Project. The comment states that the Draft EIR fails to specifically identify what provisions of the new designations may include and what will change from the existing land use regime. The comment states that the request for a zoning amendment to SD is vague and lacks detail sufficient to allow for comparison to the site's applicable land use designations. The comment further states that the SD for the site should outline all standards for buildings, height, setbacks, lot coverage, minimum unit sizes, landscaping, parking, signs, fences, or other features.

Response 12: Chapter 3 *Project Description*, Section 5.2 *Aesthetics*, and Section 5.9 *Land Use and Planning* of the Draft EIR provide thorough descriptions of the Project, including building heights, minimum setbacks, lot coverage, residential unit sizes, landscaping, parking, and other features. Pursuant to Section 15125 of the CEQA Guidelines, the baseline for the impact analysis in the EIR is the existing environmental setting, rather than approved development standards. The SD zone does not include rigid standards to be met by development projects. As described in the City's zoning code (and Draft EIR page 5.9-40), the purpose of the SD zone is to promote the public health, safety, and general welfare by the use of good design principles, maintaining an orderly and harmonious appearance, and encouraging excellence of property development. When development projects are proposed within the SD zone, they are required (per Zoning Code Section 41-593.4) to submit development plans for architectural review to ensure that buildings, structures, and grounds would be in keeping with the neighborhood and would not be detrimental to the harmonious development of the City or impair the desirability of investment or occupation in the neighborhood.

The relevant details of the Project's height, setbacks, open space, landscaping under the proposed SD zone are discussed in the applicable chapters of the Draft EIR including, but not limited to, in the impact analyses on aesthetics, land use, and parks and recreation. Thus, the Draft EIR details what will change from the existing land use to the proposed Project and determined that impacts related to the change in site zoning would not result in a significant environmental impact.

Comment 13: The comment provides references to case law and statutes related to deferral of mitigation. The comment also asserts that the EIR defers the development of mitigation measures related to hazards. The comment states that the EIR mitigation does not provide a specific plan or how compliance with any applicable code will sufficiently mitigate a known hazard on the site, and that the EIR needs to specify the removal plan and how code compliance will ensure safe removal of contaminants.

Response 13: As described in the Final EIR and page 5.7-22 of the Draft EIR, contaminated soils would be excavated and removed during Project excavation and grading activities pursuant to the regulations of DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the OCHCA. Mitigation Measure HAZ-1 requires approval of a Soil Management Plan (SMP) to ensure that excavation of contaminated soils be completed pursuant to existing DTSC and RWQCB requirements. The SMP would detail hazardous materials excavation and disposal methods and requirements pursuant to the regulation of Title 8 of the CalOSHA regulations and DTSC requirements for the removal, transportation, and disposal of hazardous waste to protect human health and the environment.

The SMP would ensure specific existing regulations, procedures, and standards for removal, handling, and disposal of contaminated soils to protect human health and the environment would occur. The SMP would be based on the specific construction activities within the areas that contain the contaminated soils. The proposed mitigation does not constitute deferral because measurable performance standards that are set by existing regulations are required to be conducted. Use of existing regulations and their related performance standards that reduce environmental impacts are allowed pursuant to CEQA and does not constitute deferred mitigation.

Comment 14: The comment states that the Project is located near low-density residential housing and other nearby sensitive receptors which would be directly impacted by construction noise and refers to two mitigation measures asserted to be in the Draft EIR, and then states that they constitute deferred mitigation.

Response 14: This comment is an inaccurate assertion. Section 5.10, *Noise*, (page 5.10-9) of the Draft EIR states that the Project site is not surrounded by sensitive receptors (including low-density residential housing). Only non-sensitive receptors that are in the vicinity of the Project site include office and business park uses. In addition, Section 5.10, *Noise*, of the Draft EIR describes that the Project would result in less than significant noise impacts and no mitigation measures are required. Thus, the comment is irrelevant to this Project. The comment appears to be left over from a comment letter prepared for a different project.

Comment 15: The comment provides references to case law and statutes related to provision of substantial evidence. The comment also asserts that the EIR incorrectly concludes, without substantial evidence, that the proposed Project will not have a substantial impact relating to noise on its future residents or workers in the area. The comment states that an onsite noise analysis was not conducted and that the EIR relies solely on the fact that the Project is located outside the 60 decibel or higher contour zone. The comment further states that the EIR needs to include site-specific facts relating to actual noise levels and how code compliance will ensure safe and insignificant noise levels for residents and workers on the site.

Response 15: As detailed on page 5.10-6 of the Draft EIR 24-hour ambient noise level measurements were taken as part of preparation of the EIR, which determined that the existing exterior noise levels onsite range between 58.9 and 65.1 dBA CNEL, which is generally a result of traffic noise. As shown on Figure 5.10-2, the Project site is located outside the 55 dBA CNEL aircraft noise level contour boundaries of JWA. The Draft EIR also provides site specific facts showing the location of the airport's actual (2018) noise contours is provided Figure 5.7-2. In addition, the EIR describes that airport overflight noise does not occur on the site after 11:00 p.m. or before 7:00 a.m. Thus, site-specific facts relating to actual overflight noise levels and the times that they occur are provided in the Draft EIR.

As described on page 5.10-27 of the Draft EIR, according to the AELUP, the Project residential and commercial land use is considered normally consistent with JWA aircraft noise exposure exterior noise level compatibility thresholds of less than 60 dBA CNEL. Also, the airport related noise at the Project site does not exceed the City's Noise Element exterior noise standards of 65 dBA CNEL or municipal code permissible noise levels for multi-family residential uses of 65 L_2 dBA (Draft EIR page 5.10-5). Therefore, because the airport overflight noise on the site is within the consistency criteria of the AELUP and would not exceed the City's municipal code requirements.

Additionally, the Draft EIR anticipates that the traffic along the roadways near the Project site would generate greater noise than aircraft overflight. Interior noise levels were evaluated based on the exterior noise level at each floor of the building façade and the attenuation of building construction and windows. Draft EIR Tables 5.10-12 through 5.10-15 (pages 5.10-20 through 5.10-25) show that based on a "windows closed" condition and standard windows with a minimum Sound Transmission Class (STC) of 27, the interior noise levels of the residential units would be below the 45 dBA CNEL interior noise standard. With this information, the EIR provides substantial evidence that the Project would not have a substantial impact to residents and workers on the site related to airport overflight and/or interior noise levels.

Comment 16: The comment asserts that the Draft EIR evaluation related to light or glare fails to analyze how compliance with the Municipal Code will adequately mitigate the substantial new source of light the Project will create. The comment asks how the municipal code would mitigate the amount of light created

by the Project, in a currently non-residential area. The comment further states that California law requires a project-specific application and analysis; and the Project fails to provide a project-specific analysis of how code compliance translates to sufficient mitigation.

Response 16: The Draft EIR describes on page 5.1-19 that nighttime lighting associated with the existing urban development is present both onsite and within the surrounding area, and includes streetlights along Red Hill Avenue and Warner Avenue, parking lot and building façade lighting, interior illumination passing through windows, and illumination from vehicle headlights. Also, page 5.1-33 describes that all of the Project's outdoor lighting would be hooded, appropriately angled away from adjacent land uses. It also describes that the Project would be required to comply with the City's lighting regulations that would be verified by the City's Planning and Building Agency during the permitting process. Because lighting exists on the Project site area, the increase in light that would be generated by the Project would not be substantial. As the lighting standards are part of the City's development standards and would be imposed in the same manner as the rest of the development standards related to the Project, pursuant to the municipal code. The City's standard development review and permitting process involves verification that all of the development standards applicable to the Project, including lighting, are implemented, which would ensure that impacts related to lighting would be less than significant.

Comment 17: The comment asserts that the air quality analysis is flawed because the input parameters used with CalEEMod were not consistent with information disclosed in the Draft EIR and that vehicle emissions factors used to estimate the proposed Project's operational emissions were changed from the CalEEMod default values without proper justification. The comment further contends that as a result, the Project's construction and operational emissions are underestimated and a new EIR should be prepared.

Response 17: The comment asserts that unsubstantiated changes were made to the CalEEMod default values for operational emissions. The California Air Resources Board (CARB) released EMFAC2017 as its latest emissions inventory model. It should be noted that the air districts recommended California Emissions Estimator Model (CalEEMod) v 2016.3.2 does not yet incorporate EMFAC2017 when calculating emissions. As such, post-processing of EMFAC2017 emissions data for import into CalEEMod was completed in the modeling, as noted in the model output data sheets that are included in the Draft EIR for review.

Comment 18: The comment asserts that the pass-by trip percentages utilized in the air quality model are inconsistent with the Traffic Impact Analysis and as a result the model may underestimate the Project's mobile-related operational emissions.

Response 18: The default pass-by and vehicle percentages were adjusted to reflect the internal capture identified in the trip generation data provided to Urban Crossroads, Inc. at the time the AQIA was prepared. It should be noted that CalEEMod does not include an option to account for internal capture – and in fact, use of the pass-by model option is likely a conservative representation since the pass-by category assigns a trip length of 0.1 miles to every trip, per CalEEMod guidance. Notwithstanding, as noted in the Draft EIR and as summarized by the commenter in subsequent comments, the total trips identified in the final traffic study include 12,872 daily vehicle trips after accounting for pass-by and internal capture. As the commenter summarizes in their comments and as presented in the Draft EIR, the AQIA and underlying associated technical analysis is based on 16,400 daily trips which is higher than the final trip generation in the traffic study. As such, the AQIA likely *overstates* rather than understates any potential impacts from vehicular activity.

Comment 19: The comment asserts that the Saturday and Sunday trip rates are incorrect and that the number of vehicle trips is higher than the input parameter figures used in CalEEMod and thus the trip estimates are incorrect and cannot be relied upon.

Response 19: The commenter is incorrect. The Draft EIR references to number of daily trips (from the traffic section) is associated with the average weekday trip rates. The traffic section, nor the traffic impact analysis include or evaluate Saturday or Sunday daily rates. As such, the air quality modeling utilized Saturday and Sunday trip rates based on ITE and CalEEMod defaults which is appropriate and supported by substantial evidence and not in conflict with the traffic section of the Draft EIR.

Comment 20: The comment states that the commercial-work trip length was manually increased in CalEEMod and the Draft EIR fails to provide any justification for this increase. The comment further asserts that the model cannot be relied upon.

Response 20: The commenter is misstates and misquotes the data presented in the EIR. The section where the commercial-work trip length was increased is related to the trucks accessing the existing industrial park land use. A 40-mile trip length for trucks is justified and recommended as a truck trip length by SCAQMD for industrial projects generating truck trips, the 40-mile trip length is derived from regional data published by SCAG.

Comment 21: The comment asserts that the pass-by and diverted trip percentages are unjustified and states that the model overestimates the existing land use's mobile-related operational emissions and should not be relied upon to determine Project significance. The comment also states that the new values provided in the Draft EIR were not adequately justified either because the reduction in pass-by and diverted trips is not substantiated. The comment further states that for these reasons the air quality analysis is flawed and the EIR should be amended.

Response 21: See Response to Comment 18 above.

Comment 22: The comment asserts that the City failed to include all relevant projects in its cumulative Traffic impacts analysis and states that the analysis should be updated to include, the Congregate Care Facility (two miles south of the Project site) and Staybridge Hotel in Irvine (one mile west of the Project site).

Response 22: Cumulative Projects that are foreseeable at the date of the NOP are required to be analyzed. A cumulative list was requested from the City of Irvine concurrent with release of the NOP. The Cumulative projects list was provided by the City of Irvine Planning department and was dated 8/2/2019, with the NOP being dated 8/5/2019. The list provided by the City of Irvine did not include the Congregate Care Facility, and only included a sign management plan for the Staybridge Hotel, which would not create any traffic. Therefore, the City did its due diligence to include cumulative projects expected to impact the opening year volumes. For the 2040 build out scenario, all cumulative projects were included in the OCTAM model, therefore, the trips generated by cumulative projects are included in the 2040 build out volumes.

Comment 23: The comment asserts that the Draft EIR fails to adopt feasible mitigation measures related to construction air quality emissions and provides a list of measures to alleviate the significant impact of construction-related emissions.

Response 23: As described in Section 5.2, *Air Quality*, of the Draft EIR the Project would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 24: The comment asserts that the Draft EIR fails to adopt feasible mitigation measures related to greenhouse gas emissions and provides a list of measures to alleviate the significant impact of the Project.

Response 24: As described in Section 5.6, *Greenhouse Gas Emissions*, of the Draft EIR the Project incorporates various sustainable design features that would reduce GHG emissions and would be developed pursuant to the 2019 Title 24/CalGreen standards. However, there are no feasible Project measures that would reduce vehicular emissions, and approximately 60 percent of the GHG emissions would be generated by Project mobile sources (vehicle trips) (Draft EIR page 5.6-14). Thus, neither the Project Applicant nor the City of Santa Ana can substantively or materially affect reductions in Project mobile-source emissions. The commenter has not demonstrated how additional mitigation, would quantifiably reduce mobile source missions or how a local shuttle program would be feasible for this type of Project. Therefore, even with the implementation of all reasonable measures, the GHG emissions still exceed thresholds and the impact is considered significant and unavoidable.

Comment 25: The comment provides a summary of CEQA requirements related to General Plan and zoning consistency through references to case law and asserts that the proposed DC land use designation is reserved for major activity areas in the City that serve as anchors to the City's commercial corridors and are developed with an urban character that includes a mixture of high rise office, commercial, and residential uses. The comment states that the proposed change is inconsistent with the General Plan's guidance on designation of DCs because the Project site area is designated for light industrial and commercial use and is not connected to any of the City's existing commercial corridors, and is not a major activity area in the City. In addition, the comment states that although the Project is adjacent to the City of Tustin's Legacy Specific Plan area, it is largely vacant and would not connect to any of the City's major activity centers.

Response 25: The comment is inaccurate. The General Plan Land Use Element does not indicate that the DC land use designation is *reserved* for major activity areas in the City that serve as anchors connected to the City's commercial corridors. Page A-22 of the General Plan Land Use Element describes various existing District Centers in the City that are developed with a mix of housing and commercial uses. Specifically, the Land Use Element states that the Heritage District (designated DC and located 0.25 mile from the Project site on Red Hill Avenue), "allows for mixed-use development with higher density residential and supportive commercial and office uses within proximity to surrounding employment centers". Similarly, the proposed Project provides mixed-use development with higher density residential and supportive commercial retail uses within proximity to surrounding employment centers.

The Land Use Element also states that District Centers are considered to be the City's "major development areas." The most intense development in the City is targeted to these areas. As described in Section 5.9, *Land Use and Planning*, of the Draft EIR, the Project site is located within an urban area that is either fully developed, under development, or planned for urban development and is within a major activity center that includes employment, retail, commercial, hotel, and high density residential development (under construction at the Heritage Project in the City of Santa Ana (approximately 1,400 feet from the Project site) and other cumulative projects listed in Table 5-1 and shown in Figure 5-1 of the Draft EIR.

Also, as described in the Draft EIR the Tustin Legacy Land Use Plan, which is across Red Hill Avenue from the Project site is being implemented to become a new mixed-use urban center providing: single-family residential, multi-family residential, mixed-use, commercial retail, office, schools, parks, and other public facilities. As the proposed Project under the DC designation would provide multi-family residential and commercial retail uses it would be consistent with the Tustin Legacy Land Use Plan, as further detailed in

Section 5.9, *Land Use and Planning*, of the Draft EIR. Overall, the proposed change is consistent with the General Plan's guidance on designation of District Centers, and impacts would not occur.

Comment 26: The comment asserts that the proposed project conflicts with the JWA AELUP and that the EIR does not contain substantial evidence that future residents would not be adversely affected by aircraft noise. The comment states that an onsite noise analysis was not conducted and that the EIR relies solely on the fact that the Project is located outside the 60 decibel or higher contour zone, and that the EIR needs to include site-specific facts relating to actual noise levels

Response 26: This is a reiteration of a previous comment. Refer to Responses 8 and 15.

Comment 27: The comment states that commenters request that the City revise and recirculate the Project's EIR to address the aforementioned concerns.

Response 27: As described previous responses, the EIR has evaluated and disclosed potential environmental impacts pursuant to the requirements of CEQA. None of the issues raised by this comment letter would result in a significant new or increased environmental impact not previously disclosed in the EIR, or any of the other circumstances requiring recirculation described in Section 15088.5. Thus, recirculation of the EIR is not warranted.

Comment 28: The comment asserts that emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed, and that an updated EIR should be prepared. The comment also states that the air quality analysis is flawed because the input parameters used with CalEEMod were not consistent with information disclosed in the Draft EIR and that vehicle emissions factors used to estimate the proposed Project's operational emissions were changed from the CalEEMod default values without proper justification. The comment further contends that as a result, the Project's construction and operational emissions are underestimated and a new EIR should be prepared.

Response 28: See Response to Comment 11 above.

Comment 29: The comment asserts that the vehicle emission factors used to estimate the proposed Project's operational emissions were changed from the CalEEMod default values without proper justification.

Response 29: See Response to Comment 17.

Comment 30: The comment asserts that the pass-by trip percentages utilized in the air quality model are inconsistent with the Traffic Impact Analysis and as a result the model may underestimate the Project's mobile-related operational emissions.

Response 30: See Response to Comment 18 above.

Comment 31: The comment asserts that the Saturday and Sunday trip rates are incorrect and that the number of vehicle trips is higher than the input parameter figures used in CalEEMod and thus the trip estimates are incorrect and cannot be relied upon.

Response 31: See Response to Comment 19 above.

Comment 32: The comment states that the commercial-work trip length was manually increased in CalEEMod and the Draft EIR fails to provide any justification for this increase. The comment further asserts that the model cannot be relied upon.

Response 32: See Response to Comment 20 above.

Comment 33: The comment asserts that the pass-by trip percentages utilized in the air quality model are altered without justification.

Response 33: See Response to Comment 18 above.

Comment 34: The comment asserts that the Draft EIR fails to adopt feasible mitigation measures related to construction air quality emissions and provides a list of measures to alleviate the significant impact of construction-related emissions that the commenter assumes to occur based on the commenters modeling of emissions.

Response 34: As described in Section 5.2, *Air Quality*, of the Draft EIR emissions from operation of the proposed Project would exceed the threshold of significance for VOCs. The majority of VOC emissions would be derived from consumer products and mobile activity. Consumer products include cleaning supplies, kitchen aerosols, cosmetics and toiletries, the use of which cannot be controlled by the City. Likewise, vehicular emissions cannot be controlled by either the Project applicant or the City. There are no feasible mitigation measures that would reduce VOC emissions to below the SCAQMD threshold. Therefore, operational emissions would be significant and unavoidable. The commenter suggests various mitigation measures are available to reduce operational emissions in comment 44, however, none of the suggested measures are quantifiable or enforceable, and none would ha

Comment 35: The comment assert that DPM emissions and health risk emissions are inadequately evaluated.

Response 35: See Response to Comment 11.

Comment 36: The comment provides a screening level assessment of DPM emissions and cancer risks from the Project.

Response 36: See Response to Comment 11.

Comment 37: The comment asserts that the Draft EIR fails to adopt feasible mitigation measures related to greenhouse gas emissions and provides a list of measures to alleviate the significant impact of the Project.

Response 37: As described in Section 5.6, *Greenhouse Gas Emissions*, of the Draft EIR the Project incorporates various sustainable design features that would reduce GHG emissions and would be developed pursuant to the 2019 Title 24/CalGreen standards. However, there are no feasible Project measures that would reduce vehicular emissions, and approximately 60 percent of the GHG emissions would be generated by Project mobile sources (vehicle trips) (Draft EIR page 5.6-14). Thus, neither the Project Applicant nor the City of Santa Ana can substantively or materially affect reductions in Project mobile-source emissions. The measures recommended by this comment would not meaningfully reduce GHG emissions substantively, nor has the commenter provided any evidence how these measures would reduce GHG emissions associated with this project.

Comment 38: The comment states that mitigation measures requiring the implementation of diesel control measures to further reduce construction emissions should be implemented.

Response 38: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 39: The comment states that mitigation measures requiring the Project to repower or replace older construction equipment engines to further reduce construction emissions should be implemented.

Response 39: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 40: The comment states that mitigation measures requiring the installation of retrofit devices on existing construction equipment to further reduce construction emissions should be implemented.

Response 40: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 41: The comment states that mitigation measures requiring the use of electric and hybrid construction to further reduce construction emissions should be implemented.

Response 41: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 42: The comment states that mitigation measures requiring the implementation of a construction vehicle inventory tracking system and that an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions.

Response 42: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required.

Comment 43: This comment states that mitigation measures requiring the use of spray equipment with greater transfer efficiencies is and that an updated air quality assessment to ensure that the necessary mitigation measures are implemented to reduce construction emissions.

Response 43: As described in Section 5.2, *Air Quality*, of the Draft EIR would not result in a significant impact related to construction emissions. As detailed in Tables 5.2-7 and 5.2-9 emissions from construction activities would not exceed SCAQMD thresholds. Therefore, impacts would be less than significant, and no mitigation measures are required. No revisions to the EIR are required.

Comment 44: The comment identifies several mitigation measures which attempt to reduce GHG levels, criteria air pollutants, such as particulate matter emissions, and requests consideration of the measures to mitigate that Project's operational emissions. The comment claims that an updated EIR should be prepared

to include these additional mitigation measures, as well as to include an updated air quality analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds.

Response 44: The list of mitigation measures outlined by the comment are not quantifiable and thus the EIR properly concluded that additional mitigation measures are not feasible because it cannot be shown that their implementation would reduce emissions to below thresholds. No substantial evidence is presented to demonstrate the effectiveness and enforceability of the suggested measures.

Comment 45: This comment is a set of concluding remarks and a disclaimer as to the accuracy of the comments.

Response 45: These comments are not related to the adequacy of the EIR and responses are unnecessary.

ATTACHMENT 1:
Technical Attachments to Comment Letter PC2 Exhibit C.

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TITLE: Bowery_Construction

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.335E-02	g/s	0.266E-01	lb/hr
AREA EMISSION RATE:	0.567E-07	g/(s-m2)	0.450E-06	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	254.40	meters	834.65	feet
AREA SOURCE SHORT SIDE:	232.00	meters	761.15	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	334136			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	2.245	35	150.0	WIN

* = worst case diagonal

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	01	10	10	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50

HT	REF TA	HT
10.0	310.0	2.0

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1.00	1.685	2525.00	0.6112E-01

25.00	1.795
50.00	1.899
75.00	1.989
100.00	2.079
125.00	2.164
150.00	2.245
175.00	2.058
200.00	1.521
225.00	1.305
250.00	1.113
275.00	0.9759
300.00	0.8716
325.00	0.7888
350.01	0.7210
375.01	0.6638
400.00	0.6150
425.00	0.5727
450.00	0.5355
475.00	0.5028
500.00	0.4735
525.00	0.4470
550.00	0.4232
575.00	0.4014
600.00	0.3818
625.00	0.3635
650.00	0.3469
675.00	0.3315
699.99	0.3173
725.00	0.3041
749.99	0.2918
775.00	0.2804
800.00	0.2698
825.00	0.2597
850.00	0.2504
875.00	0.2416
900.00	0.2332
925.00	0.2254
950.01	0.2181
975.00	0.2110
1000.00	0.2044
1025.00	0.1982
1050.00	0.1922
1075.00	0.1866
1100.00	0.1812
1125.00	0.1761
1150.00	0.1712
1175.00	0.1666
1200.00	0.1621
1225.00	0.1579
1250.00	0.1539
2550.00	0.6032E-01
2575.00	0.5954E-01
2600.00	0.5878E-01
2625.00	0.5803E-01
2650.00	0.5729E-01
2675.00	0.5657E-01
2700.00	0.5587E-01
2725.00	0.5518E-01
2750.00	0.5450E-01
2775.00	0.5385E-01
2800.01	0.5320E-01
2825.00	0.5257E-01
2850.00	0.5196E-01
2875.00	0.5136E-01
2900.00	0.5076E-01
2925.00	0.5019E-01
2950.00	0.4962E-01
2975.00	0.4906E-01
3000.00	0.4851E-01
3025.00	0.4797E-01
3050.00	0.4744E-01
3075.00	0.4692E-01
3100.00	0.4641E-01
3125.00	0.4591E-01
3150.00	0.4542E-01
3174.99	0.4494E-01
3199.99	0.4447E-01
3225.00	0.4401E-01
3250.00	0.4355E-01
3275.00	0.4310E-01
3300.00	0.4266E-01
3325.00	0.4223E-01
3350.00	0.4181E-01
3375.00	0.4139E-01
3400.00	0.4098E-01
3425.00	0.4058E-01
3450.00	0.4019E-01
3475.00	0.3980E-01
3500.00	0.3942E-01
3525.00	0.3904E-01
3550.00	0.3867E-01
3575.00	0.3831E-01
3600.00	0.3795E-01
3625.00	0.3760E-01
3650.00	0.3726E-01
3675.00	0.3692E-01
3700.00	0.3658E-01
3725.00	0.3625E-01
3750.00	0.3593E-01
3775.00	0.3561E-01

1275.00	0.1500
1300.00	0.1463
1325.00	0.1427
1350.00	0.1394
1375.00	0.1361
1400.00	0.1329
1425.00	0.1299
1450.00	0.1270
1475.00	0.1242
1500.00	0.1216
1525.00	0.1189
1550.00	0.1164
1575.00	0.1140
1600.00	0.1117
1625.00	0.1095
1650.00	0.1073
1675.00	0.1052
1700.00	0.1032
1725.00	0.1012
1750.00	0.9933E-01
1775.00	0.9750E-01
1800.00	0.9572E-01
1825.00	0.9400E-01
1850.00	0.9233E-01
1875.00	0.9071E-01
1900.00	0.8914E-01
1925.00	0.8762E-01
1950.00	0.8612E-01
1975.00	0.8468E-01
2000.01	0.8328E-01
2025.00	0.8193E-01
2050.00	0.8061E-01
2075.00	0.7933E-01
2100.00	0.7808E-01
2125.00	0.7686E-01
2150.00	0.7568E-01
2175.00	0.7453E-01
2200.00	0.7340E-01
2225.00	0.7230E-01
2250.00	0.7123E-01
2275.00	0.7019E-01
2300.00	0.6918E-01
2325.00	0.6819E-01
2350.00	0.6723E-01
2375.00	0.6630E-01
2400.00	0.6539E-01
2425.00	0.6450E-01
2450.00	0.6363E-01
2475.00	0.6277E-01
2500.00	0.6194E-01
3800.00	0.3530E-01
3825.00	0.3498E-01
3850.00	0.3468E-01
3875.00	0.3438E-01
3900.00	0.3408E-01
3925.00	0.3379E-01
3950.00	0.3350E-01
3975.00	0.3321E-01
4000.00	0.3339E-01
4025.00	0.3311E-01
4050.00	0.3283E-01
4075.00	0.3255E-01
4100.00	0.3228E-01
4125.00	0.3201E-01
4150.00	0.3175E-01
4175.00	0.3149E-01
4200.00	0.3123E-01
4225.00	0.3098E-01
4250.00	0.3073E-01
4275.00	0.3049E-01
4300.00	0.3024E-01
4325.00	0.3001E-01
4350.00	0.2977E-01
4375.00	0.2954E-01
4400.00	0.2931E-01
4425.00	0.2908E-01
4450.00	0.2886E-01
4475.00	0.2864E-01
4500.00	0.2842E-01
4525.00	0.2821E-01
4550.00	0.2799E-01
4575.00	0.2779E-01
4600.00	0.2758E-01
4625.00	0.2738E-01
4650.00	0.2717E-01
4675.00	0.2698E-01
4700.00	0.2678E-01
4725.00	0.2659E-01
4750.00	0.2639E-01
4775.00	0.2621E-01
4800.00	0.2602E-01
4825.00	0.2584E-01
4850.00	0.2565E-01
4875.00	0.2547E-01
4900.00	0.2530E-01
4925.00	0.2512E-01
4950.00	0.2495E-01
4975.00	0.2478E-01
5000.00	0.2461E-01

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	2.254	2.254	2.254	2.254	N/A
DISTANCE FROM SOURCE	153.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	1.685	1.685	1.685	1.685	N/A
DISTANCE FROM SOURCE	1.00 meters				

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 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
  H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.16851E+01         1.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17950E+01        25.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18994E+01        50.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19887E+01        75.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20788E+01       100.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21636E+01       125.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.22446E+01       150.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
*  0.22540E+01       153.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20581E+01       175.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15215E+01       200.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13053E+01       225.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11131E+01       250.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.97588E+00       275.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.87164E+00       300.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.78880E+00       325.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.72099E+00       350.01      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.66377E+00       375.01      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.61503E+00       400.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.57271E+00       425.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53552E+00       450.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.50281E+00       475.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47351E+00       500.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44705E+00       525.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42320E+00       550.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40144E+00       575.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38175E+00       600.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36355E+00       625.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34690E+00       650.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33152E+00       675.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31729E+00       699.99      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30407E+00       725.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29181E+00       749.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28040E+00       775.00      0.00  15.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26977E+00       800.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25969E+00       825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25037E+00       850.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24161E+00       875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.23319E+00       900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.22542E+00       925.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21806E+00       950.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.21101E+00       975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.20440E+00      1000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19817E+00      1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.19222E+00      1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18656E+00      1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.18117E+00      1100.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17608E+00      1125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.17122E+00      1150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.16657E+00      1175.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

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   0.16215E+00      1200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15793E+00      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.15386E+00      1250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14999E+00      1275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14628E+00      1300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.14275E+00      1325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13936E+00      1350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13607E+00      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.13293E+00      1400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12991E+00      1425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12702E+00      1450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12424E+00      1475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.12155E+00      1500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11894E+00      1525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11644E+00      1550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11404E+00      1575.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.11172E+00      1600.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.10946E+00      1625.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10729E+00      1650.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10519E+00      1675.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10316E+00      1700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.10121E+00      1725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.99327E-01      1750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.97501E-01      1775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.95719E-01      1800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.93995E-01      1825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.92326E-01      1850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.90709E-01      1875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.89143E-01      1900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.87616E-01      1925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.86124E-01      1950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.84676E-01      1975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.83279E-01      2000.01      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.81927E-01      2025.00      0.00  10.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.80611E-01      2050.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.79327E-01      2075.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.78078E-01      2100.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.76864E-01      2125.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.75683E-01      2150.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.74527E-01      2175.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.73398E-01      2200.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.72298E-01      2225.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.71233E-01      2250.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.70193E-01      2275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.69179E-01      2300.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.68192E-01      2325.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.67232E-01      2350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.66297E-01      2375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.65385E-01      2400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.64496E-01      2425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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   0.63627E-01      2450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.62774E-01      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.61938E-01      2500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.61121E-01      2525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.60323E-01      2550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.59544E-01      2575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.58781E-01      2600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.58030E-01      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.57294E-01      2650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.56573E-01      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.55868E-01      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.55179E-01      2725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.54504E-01      2750.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53848E-01      2775.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.53203E-01      2800.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.52575E-01      2825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.51959E-01      2850.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.51356E-01      2875.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.50765E-01      2900.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.50185E-01      2925.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.49615E-01      2950.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.49055E-01      2975.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.48507E-01      3000.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47969E-01      3025.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.47442E-01      3050.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46923E-01      3075.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.46413E-01      3100.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45913E-01      3125.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.45423E-01      3150.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44942E-01      3174.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44470E-01      3199.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.44006E-01      3225.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43551E-01      3250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.43102E-01      3275.00      0.00  10.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42662E-01      3300.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.42229E-01      3325.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41806E-01      3350.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.41391E-01      3375.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40983E-01      3400.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40582E-01      3425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.40186E-01      3450.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39798E-01      3475.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39416E-01      3500.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.39040E-01      3525.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38671E-01      3550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.38308E-01      3575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37952E-01      3600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37601E-01      3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.37257E-01      3650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36917E-01      3675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

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   0.36583E-01      3700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.36255E-01      3725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35931E-01      3750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35611E-01      3775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.35295E-01      3800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34985E-01      3825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34679E-01      3850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34378E-01      3875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.34081E-01      3900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33786E-01      3925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33497E-01      3950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33211E-01      3975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33390E-01      4000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.33107E-01      4025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32828E-01      4050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32552E-01      4075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.32281E-01      4100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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 310.0    2.0
   0.32014E-01      4125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31750E-01      4150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31490E-01      4175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.31234E-01      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30982E-01      4225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30733E-01      4250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30487E-01      4275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30245E-01      4300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.30006E-01      4325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29770E-01      4350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29538E-01      4375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29308E-01      4400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.29082E-01      4425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28859E-01      4450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28638E-01      4475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28421E-01      4500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.28206E-01      4525.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27995E-01      4550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27786E-01      4575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27579E-01      4600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27376E-01      4625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.27174E-01      4650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26976E-01      4675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26780E-01      4700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26586E-01      4725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26395E-01      4750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26206E-01      4775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.26019E-01      4800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25835E-01      4825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25653E-01      4850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25473E-01      4875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25296E-01      4900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.25120E-01      4925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
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   0.24947E-01      4950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24776E-01      4975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
   0.24606E-01      5000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
 310.0    2.0
```

TITLE: Bowery_Operation

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.763E-02	g/s	0.605E-01	lb/hr
AREA EMISSION RATE:	0.129E-06	g/(s-m2)	0.103E-05	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	254.40	meters	834.65	feet
AREA SOURCE SHORT SIDE:	232.00	meters	761.15	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	334136			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	5.116	35	150.0	WIN

* = worst case diagonal

```
**********  MAKEMET METEOROLOGY PARAMETERS  **********
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                   0.35
BOWEN RATIO:              1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



--------------------------------------------------------------------------------
********** AERSCREEN AUTOMATED DISTANCES **********
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
--------------------------------------------------------------------------------


                    MAXIMUM                              MAXIMUM
           DIST     1-HR CONC                DIST     1-HR CONC
            (m)      (ug/m3)                  (m)      (ug/m3)
         --------------------              ---------------------
           1.00     3.840                 2525.00    0.1393
```

25.00	4.091	2550.00	0.1375
50.00	4.329	2575.00	0.1357
75.00	4.532	2600.00	0.1340
100.00	4.738	2625.00	0.1323
125.00	4.931	2650.00	0.1306
150.00	5.116	2675.00	0.1289
175.00	4.691	2700.00	0.1273
200.00	3.468	2725.00	0.1258
225.00	2.975	2750.00	0.1242
250.00	2.537	2775.00	0.1227
275.00	2.224	2800.01	0.1213
300.00	1.987	2825.00	0.1198
325.00	1.798	2850.00	0.1184
350.01	1.643	2875.00	0.1170
375.01	1.513	2900.00	0.1157
400.00	1.402	2925.00	0.1144
425.00	1.305	2950.00	0.1131
450.00	1.220	2975.00	0.1118
475.00	1.146	3000.00	0.1106
500.00	1.079	3025.00	0.1093
525.00	1.019	3050.00	0.1081
550.00	0.9645	3075.00	0.1069
575.00	0.9149	3100.00	0.1058
600.00	0.8700	3125.00	0.1046
625.00	0.8285	3150.00	0.1035
650.00	0.7906	3174.99	0.1024
675.00	0.7556	3199.99	0.1013
699.99	0.7231	3225.00	0.1003
725.00	0.6930	3250.00	0.9925E-01
749.99	0.6651	3275.00	0.9823E-01
775.00	0.6391	3300.00	0.9723E-01
800.00	0.6148	3325.00	0.9624E-01
825.00	0.5919	3350.00	0.9528E-01
850.00	0.5706	3375.00	0.9433E-01
875.00	0.5506	3400.00	0.9340E-01
900.00	0.5315	3425.00	0.9249E-01
925.00	0.5137	3450.00	0.9159E-01
950.01	0.4970	3475.00	0.9070E-01
975.00	0.4809	3500.00	0.8983E-01
1000.00	0.4658	3525.00	0.8898E-01
1025.00	0.4517	3550.00	0.8813E-01
1050.00	0.4381	3575.00	0.8731E-01
1075.00	0.4252	3600.00	0.8649E-01
1100.00	0.4129	3625.00	0.8570E-01
1125.00	0.4013	3650.00	0.8491E-01
1150.00	0.3902	3675.00	0.8414E-01
1175.00	0.3796	3700.00	0.8338E-01
1200.00	0.3695	3725.00	0.8263E-01
1225.00	0.3599	3750.00	0.8189E-01
1250.00	0.3507	3775.00	0.8116E-01

1275.00	0.3418
1300.00	0.3334
1325.00	0.3253
1350.00	0.3176
1375.00	0.3101
1400.00	0.3029
1425.00	0.2961
1450.00	0.2895
1475.00	0.2831
1500.00	0.2770
1525.00	0.2711
1550.00	0.2654
1575.00	0.2599
1600.00	0.2546
1625.00	0.2495
1650.00	0.2445
1675.00	0.2397
1700.00	0.2351
1725.00	0.2307
1750.00	0.2264
1775.00	0.2222
1800.00	0.2182
1825.00	0.2142
1850.00	0.2104
1875.00	0.2067
1900.00	0.2032
1925.00	0.1997
1950.00	0.1963
1975.00	0.1930
2000.01	0.1898
2025.00	0.1867
2050.00	0.1837
2075.00	0.1808
2100.00	0.1779
2125.00	0.1752
2150.00	0.1725
2175.00	0.1699
2200.00	0.1673
2225.00	0.1648
2250.00	0.1623
2275.00	0.1600
2300.00	0.1577
2325.00	0.1554
2350.00	0.1532
2375.00	0.1511
2400.00	0.1490
2425.00	0.1470
2450.00	0.1450
2475.00	0.1431
2500.00	0.1412
3800.00	0.8044E-01
3825.00	0.7973E-01
3850.00	0.7904E-01
3875.00	0.7835E-01
3900.00	0.7767E-01
3925.00	0.7700E-01
3950.00	0.7634E-01
3975.00	0.7569E-01
4000.00	0.7610E-01
4025.00	0.7545E-01
4050.00	0.7482E-01
4075.00	0.7419E-01
4100.00	0.7357E-01
4125.00	0.7296E-01
4150.00	0.7236E-01
4175.00	0.7177E-01
4200.00	0.7118E-01
4225.00	0.7061E-01
4250.00	0.7004E-01
4275.00	0.6948E-01
4300.00	0.6893E-01
4325.00	0.6839E-01
4350.00	0.6785E-01
4375.00	0.6732E-01
4400.00	0.6680E-01
4425.00	0.6628E-01
4450.00	0.6577E-01
4475.00	0.6527E-01
4500.00	0.6477E-01
4525.00	0.6428E-01
4550.00	0.6380E-01
4575.00	0.6333E-01
4600.00	0.6285E-01
4625.00	0.6239E-01
4650.00	0.6193E-01
4675.00	0.6148E-01
4700.00	0.6103E-01
4725.00	0.6059E-01
4750.00	0.6016E-01
4775.00	0.5972E-01
4800.00	0.5930E-01
4825.00	0.5888E-01
4850.00	0.5847E-01
4875.00	0.5806E-01
4900.00	0.5765E-01
4925.00	0.5725E-01
4950.00	0.5686E-01
4975.00	0.5647E-01
5000.00	0.5608E-01

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	5.137	5.137	5.137	5.137	N/A
DISTANCE FROM SOURCE	153.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	3.840	3.840	3.840	3.840	N/A
DISTANCE FROM SOURCE	1.00 meters				

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 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
 H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.38404E+01         1.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40910E+01        25.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43288E+01        50.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45324E+01        75.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.47377E+01       100.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49309E+01       125.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51156E+01       150.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
*  0.51370E+01       153.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46906E+01       175.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34676E+01       200.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29748E+01       225.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25368E+01       250.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22241E+01       275.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19865E+01       300.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17977E+01       325.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16432E+01       350.01      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.15128E+01       375.01      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14017E+01       400.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13052E+01       425.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12205E+01       450.00      0.00  40.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11459E+01       475.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10792E+01       500.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10188E+01       525.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96449E+00       550.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.91490E+00       575.00      0.00  35.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87004E+00       600.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.82855E+00       625.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79061E+00       650.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75556E+00       675.00      0.00  30.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72312E+00       699.99      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.69300E+00       725.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66506E+00       749.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63905E+00       775.00      0.00  15.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.61482E+00       800.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59186E+00       825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57062E+00       850.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.55064E+00       875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53146E+00       900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51374E+00       925.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49696E+00       950.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48089E+00       975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46585E+00      1000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45165E+00      1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43807E+00      1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42518E+00      1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.41289E+00      1100.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40130E+00      1125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39022E+00      1150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37962E+00      1175.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.36955E+00      1200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35992E+00      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35066E+00      1250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34184E+00      1275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33339E+00      1300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32533E+00      1325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31760E+00      1350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31012E+00      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30295E+00      1400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29607E+00      1425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28948E+00      1450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28314E+00      1475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27703E+00      1500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27107E+00      1525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26537E+00      1550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25990E+00      1575.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25462E+00      1600.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.24948E+00      1625.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24453E+00      1650.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23974E+00      1675.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23511E+00      1700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23066E+00      1725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22637E+00      1750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22221E+00      1775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21815E+00      1800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21422E+00      1825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21042E+00      1850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20673E+00      1875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20316E+00      1900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19968E+00      1925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19628E+00      1950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19298E+00      1975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18980E+00      2000.01      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18672E+00      2025.00      0.00  10.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18372E+00      2050.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18079E+00      2075.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17795E+00      2100.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17518E+00      2125.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17249E+00      2150.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16985E+00      2175.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16728E+00      2200.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16477E+00      2225.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16234E+00      2250.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15997E+00      2275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15766E+00      2300.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15541E+00      2325.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15323E+00      2350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15110E+00      2375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14902E+00      2400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14699E+00      2425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.14501E+00      2450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14307E+00      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14116E+00      2500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13930E+00      2525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13748E+00      2550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13570E+00      2575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13397E+00      2600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13226E+00      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13058E+00      2650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12893E+00      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12733E+00      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12576E+00      2725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12422E+00      2750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12272E+00      2775.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12125E+00      2800.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11982E+00      2825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11842E+00      2850.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.11704E+00      2875.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11570E+00      2900.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11438E+00      2925.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11308E+00      2950.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11180E+00      2975.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11055E+00      3000.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10932E+00      3025.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10812E+00      3050.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10694E+00      3075.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10578E+00      3100.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10464E+00      3125.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10352E+00      3150.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10243E+00      3174.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10135E+00      3199.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10029E+00      3225.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99254E-01      3250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.98232E-01      3275.00      0.00  10.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.97228E-01      3300.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96243E-01      3325.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.95278E-01      3350.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.94332E-01      3375.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.93402E-01      3400.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.92488E-01      3425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.91587E-01      3450.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.90702E-01      3475.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.89832E-01      3500.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.88976E-01      3525.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.88134E-01      3550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87306E-01      3575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.86494E-01      3600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85696E-01      3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.84910E-01      3650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.84137E-01      3675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.83376E-01      3700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.82627E-01      3725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.81889E-01      3750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.81159E-01      3775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.80440E-01      3800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79732E-01      3825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79035E-01      3850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.78349E-01      3875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.77672E-01      3900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.77001E-01      3925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76341E-01      3950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75690E-01      3975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76099E-01      4000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75453E-01      4025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74816E-01      4050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74189E-01      4075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.73571E-01      4100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
```

```
310.0    2.0
   0.72962E-01      4125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72361E-01      4150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.71769E-01      4175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.71185E-01      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70609E-01      4225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70042E-01      4250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.69482E-01      4275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68930E-01      4300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68385E-01      4325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.67848E-01      4350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.67318E-01      4375.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66795E-01      4400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.66280E-01      4425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.65771E-01      4450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.65269E-01      4475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.64773E-01      4500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.64284E-01      4525.00      0.00   0.0        Winter       0-360   10011001
```

```
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63801E-01      4550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63325E-01      4575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.62855E-01      4600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.62390E-01      4625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.61932E-01      4650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.61479E-01      4675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.61032E-01      4700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60591E-01      4725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60155E-01      4750.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59725E-01      4775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59300E-01      4800.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58880E-01      4825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58465E-01      4850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58055E-01      4875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57651E-01      4900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57251E-01      4925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

```
   0.56856E-01      4950.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56465E-01      4975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56079E-01      5000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

The Bowery Mixed-Use Project (Operations)

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	2,424.00	Space	3.42	969,600.00	0
Other Asphalt Surfaces	166.98	1000sqft	3.83	166,981.00	0
Other Non-Asphalt Surfaces	174.56	1000sqft	4.01	174,555.00	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	10.00	1000sqft	0.23	10,000.00	0
High Turnover (Sit Down Restaurant)	25.00	1000sqft	0.57	25,000.00	0
Quality Restaurant	25.00	1000sqft	0.57	25,000.00	0
Apartments Mid Rise	1,150.00	Dwelling Unit	1.48	1,288,000.00	2081
Regional Shopping Center	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's model.

Vehicle Trips - See SWAPE comment about trip rates and trip purpose percentages.

Vehicle Emission Factors - See SWAPE comment about vehicle emission factors.

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Consistent with DEIR's model.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFireplaces	NumberGas	977.50	1,150.00
tblFireplaces	NumberNoFireplace	115.00	0.00
tblFireplaces	NumberWood	57.50	0.00
tblLandUse	LandUseSquareFeet	166,980.00	166,981.00
tblLandUse	LandUseSquareFeet	174,560.00	174,555.00
tblLandUse	LandUseSquareFeet	1,150,000.00	1,288,000.00
tblLandUse	LotAcreage	21.82	3.42
tblLandUse	LotAcreage	30.26	1.48
tblLandUse	Population	3,289.00	2,081.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	DV_TP	37.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00

tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	12.00	17.00
tblVehicleTrips	PB_TP	50.00	31.00
tblVehicleTrips	PB_TP	43.00	21.00
tblVehicleTrips	PB_TP	44.00	22.00
tblVehicleTrips	PB_TP	11.00	24.00
tblVehicleTrips	PR_TP	86.00	89.00
tblVehicleTrips	PR_TP	51.00	83.00
tblVehicleTrips	PR_TP	29.00	69.00
tblVehicleTrips	PR_TP	37.00	79.00
tblVehicleTrips	PR_TP	38.00	78.00
tblVehicleTrips	PR_TP	54.00	76.00
tblVehicleTrips	ST_TR	6.39	5.30
tblVehicleTrips	ST_TR	696.00	803.38
tblVehicleTrips	ST_TR	722.03	325.70
tblVehicleTrips	ST_TR	158.37	109.58
tblVehicleTrips	ST_TR	94.36	82.68
tblVehicleTrips	ST_TR	49.97	35.31
tblVehicleTrips	SU_TR	5.86	5.30
tblVehicleTrips	SU_TR	500.00	803.38
tblVehicleTrips	SU_TR	542.72	325.70
tblVehicleTrips	SU_TR	131.84	109.58
tblVehicleTrips	SU_TR	72.16	82.68
tblVehicleTrips	SU_TR	25.24	35.31

tblVehicleTrips	WD_TR	6.65	5.30
tblVehicleTrips	WD_TR	716.00	803.38
tblVehicleTrips	WD_TR	496.12	325.70
tblVehicleTrips	WD_TR	127.15	109.58
tblVehicleTrips	WD_TR	89.95	82.68
tblVehicleTrips	WD_TR	42.70	35.31
tblWoodstoves	NumberCatalytic	57.50	0.00
tblWoodstoves	NumberNoncatalytic	57.50	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.8762	0.3757	12.0102	2.1500e-003		0.0850	0.0850		0.0850	0.0850	0.0000	295.6007	295.6007	0.0242	5.0600e-003	297.7137
Energy	0.1578	1.3954	0.9212	8.6000e-003		0.1090	0.1090		0.1090	0.1090	0.0000	5,614.4055	5,614.4055	0.1973	0.0632	5,638.1833
Mobile	3.9046	16.5785	50.2077	0.1911	17.5772	0.1421	17.7193	4.7073	0.1321	4.8394	0.0000	17,616.5178	17,616.5178	0.7315	0.0000	17,634.8063
Waste						0.0000	0.0000		0.0000	0.0000	204.2982	0.0000	204.2982	12.0737	0.0000	506.1402
Water						0.0000	0.0000		0.0000	0.0000	30.1644	568.8203	598.9846	3.1217	0.0780	700.2738
Total	**9.9386**	**18.3497**	**63.1391**	**0.2018**	**17.5772**	**0.3361**	**17.9133**	**4.7073**	**0.3261**	**5.0334**	**234.4626**	**24,095.3443**	**24,329.8069**	**16.1483**	**0.1463**	**24,777.1173**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.8762	0.3757	12.0102	2.1500e-003		0.0850	0.0850		0.0850	0.0850	0.0000	295.6007	295.6007	0.0242	5.0600e-003	297.7137
Energy	0.1578	1.3954	0.9212	8.6000e-003		0.1090	0.1090		0.1090	0.1090	0.0000	5,614.4055	5,614.4055	0.1973	0.0632	5,638.1833
Mobile	3.9046	16.5785	50.2077	0.1911	17.5772	0.1421	17.7193	4.7073	0.1321	4.8394	0.0000	17,616.5178	17,616.5178	0.7315	0.0000	17,634.8063
Waste						0.0000	0.0000		0.0000	0.0000	204.2982	0.0000	204.2982	12.0737	0.0000	506.1402
Water						0.0000	0.0000		0.0000	0.0000	30.1644	568.8203	598.9846	3.1217	0.0780	700.2738
Total	**9.9386**	**18.3497**	**63.1391**	**0.2018**	**17.5772**	**0.3361**	**17.9133**	**4.7073**	**0.3261**	**5.0334**	**234.4626**	**24,095.3443**	**24,329.8069**	**16.1483**	**0.1463**	**24,777.1173**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.9046	16.5785	50.2077	0.1911	17.5772	0.1421	17.7193	4.7073	0.1321	4.8394	0.0000	17,616.5178	17,616.5178	0.7315	0.0000	17,634.8063
Unmitigated	3.9046	16.5785	50.2077	0.1911	17.5772	0.1421	17.7193	4.7073	0.1321	4.8394	0.0000	17,616.5178	17,616.5178	0.7315	0.0000	17,634.8063

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	6,095.00	6,095.00	6095.00	21,524,690	21,524,690
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	1,606.76	1,606.76	1606.76	4,008,951	4,008,951
Fast Food Restaurant with Drive Thru	3,257.00	3,257.00	3257.00	6,822,622	6,822,622
High Turnover (Sit Down Restaurant)	2,739.50	2,739.50	2739.50	6,962,775	6,962,775
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	2,067.00	2,067.00	2067.00	5,356,416	5,356,416
Regional Shopping Center	635.58	635.58	635.58	1,667,397	1,667,397
Total	16,400.84	16,400.84	16,400.84	46,342,852	46,342,852

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	89	11	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	83	0	17
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	69	0	31
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	79	0	21
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	78	0	22
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	76	0	24

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Enclosed Parking with Elevator	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant w/o Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant with Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
High Turnover (Sit Down Restaurant)	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Non-Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Quality Restaurant	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Regional Shopping Center	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,053.2249	4,053.2249	0.1673	0.0346	4,067.7254
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,053.2249	4,053.2249	0.1673	0.0346	4,067.7254
NaturalGas Mitigated	0.1578	1.3954	0.9212	8.6000e-003		0.1090	0.1090		0.1090	0.1090	0.0000	1,561.1806	1,561.1806	0.0299	0.0286	1,570.4579
NaturalGas Unmitigated	0.1578	1.3954	0.9212	8.6000e-003		0.1090	0.1090		0.1090	0.1090	0.0000	1,561.1806	1,561.1806	0.0299	0.0286	1,570.4579

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.31416e+007	0.0709	0.6055	0.2577	3.8700e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2847	701.2847	0.0134	0.0129	705.4521
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	518640	2.8000e-003	0.0254	0.0214	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6766	27.6766	5.3000e-004	5.1000e-004	27.8411
Fast Food Restaurant with Drive Thru	2.5932e+006	0.0140	0.1271	0.1068	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	138.3830	138.3830	2.6500e-003	2.5400e-003	139.2054
High Turnover (Sit Down Restaurant)	6.483e+006	0.0350	0.3178	0.2670	1.9100e-003		0.0242	0.0242		0.0242	0.0242	0.0000	345.9576	345.9576	6.6300e-003	6.3400e-003	348.0134
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	6.483e+006	0.0350	0.3178	0.2670	1.9100e-003		0.0242	0.0242		0.0242	0.0242	0.0000	345.9576	345.9576	6.6300e-003	6.3400e-003	348.0134
Regional Shopping Center	36000	1.9000e-004	1.7600e-003	1.4800e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9211	1.9211	4.0000e-005	4.0000e-005	1.9325
Total		**0.1578**	**1.3954**	**0.9212**	**8.6100e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**1,561.1806**	**1,561.1806**	**0.0299**	**0.0286**	**1,570.4579**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.31416e+007	0.0709	0.6055	0.2577	3.8700e-003		0.0490	0.0490		0.0490	0.0490	0.0000	701.2847	701.2847	0.0134	0.0129	705.4521
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	518640	2.8000e-003	0.0254	0.0214	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6766	27.6766	5.3000e-004	5.1000e-004	27.8411
Fast Food Restaurant with Drive Thru	2.5932e+006	0.0140	0.1271	0.1068	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	138.3830	138.3830	2.6500e-003	2.5400e-003	139.2054
High Turnover (Sit Down Restaurant)	6.483e+006	0.0350	0.3178	0.2670	1.9100e-003		0.0242	0.0242		0.0242	0.0242	0.0000	345.9576	345.9576	6.6300e-003	6.3400e-003	348.0134
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	6.483e+006	0.0350	0.3178	0.2670	1.9100e-003		0.0242	0.0242		0.0242	0.0242	0.0000	345.9576	345.9576	6.6300e-003	6.3400e-003	348.0134
Regional Shopping Center	36000	1.9000e-004	1.7600e-003	1.4800e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9211	1.9211	4.0000e-005	4.0000e-005	1.9325
Total		**0.1578**	**1.3954**	**0.9212**	**8.6100e-003**		**0.1090**	**0.1090**		**0.1090**	**0.1090**	**0.0000**	**1,561.1806**	**1,561.1806**	**0.0299**	**0.0286**	**1,570.4579**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.5716e+006	1,456.6081	0.0601	0.0124	1,461.8192
Enclosed Parking with Elevator	5.68186e+006	1,810.3611	0.0747	0.0155	1,816.8377
Fast Food Restaurant w/o Drive Thru	72960	23.2466	9.6000e-004	2.0000e-004	23.3298
Fast Food Restaurant with Drive Thru	364800	116.2331	4.8000e-003	9.9000e-004	116.6489
High Turnover (Sit Down Restaurant)	912000	290.5827	0.0120	2.4800e-003	291.6223
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	912000	290.5827	0.0120	2.4800e-003	291.6223
Regional Shopping Center	205920	65.6105	2.7100e-003	5.6000e-004	65.8453
Total		**4,053.2249**	**0.1674**	**0.0346**	**4,067.7254**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.5716e+006	1,456.6081	0.0601	0.0124	1,461.8192
Enclosed Parking with Elevator	5.68186e+006	1,810.3611	0.0747	0.0155	1,816.8377
Fast Food Restaurant w/o Drive Thru	72960	23.2466	9.6000e-004	2.0000e-004	23.3298
Fast Food Restaurant with Drive Thru	364800	116.2331	4.8000e-003	9.9000e-004	116.6489
High Turnover (Sit Down Restaurant)	912000	290.5827	0.0120	2.4800e-003	291.6223
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	912000	290.5827	0.0120	2.4800e-003	291.6223
Regional Shopping Center	205920	65.6105	2.7100e-003	5.6000e-004	65.8453
Total		**4,053.2249**	**0.1674**	**0.0346**	**4,067.7254**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.8762	0.3757	12.0102	2.1500e-003		0.0850	0.0850		0.0850	0.0850	0.0000	295.6007	295.6007	0.0242	5.0600e-003	297.7137
Unmitigated	5.8762	0.3757	12.0102	2.1500e-003		0.0850	0.0850		0.0850	0.0850	0.0000	295.6007	295.6007	0.0242	5.0600e-003	297.7137

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.0280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0279	0.2385	0.1015	1.5200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	276.1577	276.1577	5.2900e-003	5.0600e-003	277.7988
Landscaping	0.3620	0.1373	11.9087	6.3000e-004		0.0657	0.0657		0.0657	0.0657	0.0000	19.4430	19.4430	0.0189	0.0000	19.9149
Total	**5.8762**	**0.3757**	**12.0102**	**2.1500e-003**		**0.0850**	**0.0850**		**0.0850**	**0.0850**	**0.0000**	**295.6007**	**295.6007**	**0.0242**	**5.0600e-003**	**297.7137**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4583					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.0280					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0279	0.2385	0.1015	1.5200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	276.1577	276.1577	5.2900e-003	5.0600e-003	277.7988
Landscaping	0.3620	0.1373	11.9087	6.3000e-004		0.0657	0.0657		0.0657	0.0657	0.0000	19.4430	19.4430	0.0189	0.0000	19.9149
Total	**5.8762**	**0.3757**	**12.0102**	**2.1500e-003**		**0.0850**	**0.0850**		**0.0850**	**0.0850**	**0.0000**	**295.6007**	**295.6007**	**0.0242**	**5.0600e-003**	**297.7137**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	598.9846	3.1217	0.0780	700.2738
Unmitigated	598.9846	3.1217	0.0780	700.2738

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	74.9271 / 47.2367	501.8386	2.4612	0.0617	581.7659
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0.607067 / 0.038749	2.8483	0.0199	4.9000e-004	3.4916
Fast Food Restaurant with Drive Thru	3.03534 / 0.193745	14.2417	0.0995	2.4500e-003	17.4578
High Turnover (Sit Down Restaurant)	7.58834 / 0.484362	35.6043	0.2486	6.1200e-003	43.6446
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	7.58834 / 0.484362	35.6043	0.2486	6.1200e-003	43.6446
Regional Shopping Center	1.33331 / 0.817187	8.8473	0.0438	1.1000e-003	10.2693
Total		**598.9846**	**3.1217**	**0.0780**	**700.2738**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	74.9271 / 47.2367	501.8386	2.4612	0.0617	581.7659
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0.607067 / 0.038749	2.8483	0.0199	4.9000e-004	3.4916
Fast Food Restaurant with Drive Thru	3.03534 / 0.193745	14.2417	0.0995	2.4500e-003	17.4578
High Turnover (Sit Down Restaurant)	7.58834 / 0.484362	35.6043	0.2486	6.1200e-003	43.6446
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	7.58834 / 0.484362	35.6043	0.2486	6.1200e-003	43.6446
Regional Shopping Center	1.33331 / 0.817187	8.8473	0.0438	1.1000e-003	10.2693
Total		**598.9846**	**3.1217**	**0.0780**	**700.2738**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	204.2982	12.0737	0.0000	506.1402
Unmitigated	204.2982	12.0737	0.0000	506.1402

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	529	107.3822	6.3461	0.0000	266.0349
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	23.04	4.6769	0.2764	0.0000	11.5869
Fast Food Restaurant with Drive Thru	115.19	23.3825	1.3819	0.0000	57.9292
High Turnover (Sit Down Restaurant)	297.5	60.3898	3.5689	0.0000	149.6132
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	22.81	4.6302	0.2736	0.0000	11.4712
Regional Shopping Center	18.9	3.8365	0.2267	0.0000	9.5048
Total		**204.2982**	**12.0737**	**0.0000**	**506.1402**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	529	107.3822	6.3461	0.0000	266.0349
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	23.04	4.6769	0.2764	0.0000	11.5869
Fast Food Restaurant with Drive Thru	115.19	23.3825	1.3819	0.0000	57.9292
High Turnover (Sit Down Restaurant)	297.5	60.3898	3.5689	0.0000	149.6132
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	22.81	4.6302	0.2736	0.0000	11.4712
Regional Shopping Center	18.9	3.8365	0.2267	0.0000	9.5048
Total		**204.2982**	**12.0737**	**0.0000**	**506.1402**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Operations)

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	2,424.00	Space	3.42	969,600.00	0
Other Asphalt Surfaces	166.98	1000sqft	3.83	166,981.00	0
Other Non-Asphalt Surfaces	174.56	1000sqft	4.01	174,555.00	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	10.00	1000sqft	0.23	10,000.00	0
High Turnover (Sit Down Restaurant)	25.00	1000sqft	0.57	25,000.00	0
Quality Restaurant	25.00	1000sqft	0.57	25,000.00	0
Apartments Mid Rise	1,150.00	Dwelling Unit	1.48	1,288,000.00	2081
Regional Shopping Center	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Bowery Mixed-Use Project (Operations) - Orange County, Summer

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's model.

Vehicle Trips - See SWAPE comment about trip rates and trip purpose percentages.

Vehicle Emission Factors - See SWAPE comment about vehicle emission factors.

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Consistent with DEIR's model.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFireplaces	NumberGas	977.50	1,150.00
tblFireplaces	NumberNoFireplace	115.00	0.00
tblFireplaces	NumberWood	57.50	0.00
tblLandUse	LandUseSquareFeet	166,980.00	166,981.00
tblLandUse	LandUseSquareFeet	174,560.00	174,555.00
tblLandUse	LandUseSquareFeet	1,150,000.00	1,288,000.00
tblLandUse	LotAcreage	21.82	3.42
tblLandUse	LotAcreage	30.26	1.48
tblLandUse	Population	3,289.00	2,081.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	DV_TP	37.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00

tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	12.00	17.00
tblVehicleTrips	PB_TP	50.00	31.00
tblVehicleTrips	PB_TP	43.00	21.00
tblVehicleTrips	PB_TP	44.00	22.00
tblVehicleTrips	PB_TP	11.00	24.00
tblVehicleTrips	PR_TP	86.00	89.00
tblVehicleTrips	PR_TP	51.00	83.00
tblVehicleTrips	PR_TP	29.00	69.00
tblVehicleTrips	PR_TP	37.00	79.00
tblVehicleTrips	PR_TP	38.00	78.00
tblVehicleTrips	PR_TP	54.00	76.00
tblVehicleTrips	ST_TR	6.39	5.30
tblVehicleTrips	ST_TR	696.00	803.38
tblVehicleTrips	ST_TR	722.03	325.70
tblVehicleTrips	ST_TR	158.37	109.58
tblVehicleTrips	ST_TR	94.36	82.68
tblVehicleTrips	ST_TR	49.97	35.31
tblVehicleTrips	SU_TR	5.86	5.30
tblVehicleTrips	SU_TR	500.00	803.38
tblVehicleTrips	SU_TR	542.72	325.70
tblVehicleTrips	SU_TR	131.84	109.58
tblVehicleTrips	SU_TR	72.16	82.68
tblVehicleTrips	SU_TR	25.24	35.31

tblVehicleTrips	WD_TR	6.65	5.30
tblVehicleTrips	WD_TR	716.00	803.38
tblVehicleTrips	WD_TR	496.12	325.70
tblVehicleTrips	WD_TR	127.15	109.58
tblVehicleTrips	WD_TR	89.95	82.68
tblVehicleTrips	WD_TR	42.70	35.31
tblWoodstoves	NumberCatalytic	57.50	0.00
tblWoodstoves	NumberNoncatalytic	57.50	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Energy	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
Mobile	22.5194	87.3821	283.7168	1.0854	98.3073	0.7800	99.0873	26.2886	0.7254	27.0140		110,276.3945	110,276.3945	4.4505		110,387.6581
Total	**58.5739**	**115.2029**	**392.1516**	**1.2594**	**98.3073**	**3.4454**	**101.7527**	**26.2886**	**3.3908**	**29.6794**	**0.0000**	**144,230.4211**	**144,230.4211**	**5.2645**	**0.6194**	**144,546.5990**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Energy	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
Mobile	22.5194	87.3821	283.7168	1.0854	98.3073	0.7800	99.0873	26.2886	0.7254	27.0140		110,276.3945	110,276.3945	4.4505		110,387.6581
Total	**58.5739**	**115.2029**	**392.1516**	**1.2594**	**98.3073**	**3.4454**	**101.7527**	**26.2886**	**3.3908**	**29.6794**	**0.0000**	**144,230.4211**	**144,230.4211**	**5.2645**	**0.6194**	**144,546.5990**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	22.5194	87.3821	283.7168	1.0854	98.3073	0.7800	99.0873	26.2886	0.7254	27.0140		110,276.3945	110,276.3945	4.4505		110,387.6581
Unmitigated	22.5194	87.3821	283.7168	1.0854	98.3073	0.7800	99.0873	26.2886	0.7254	27.0140		110,276.3945	110,276.3945	4.4505		110,387.6581

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	6,095.00	6,095.00	6095.00	21,524,690	21,524,690
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	1,606.76	1,606.76	1606.76	4,008,951	4,008,951
Fast Food Restaurant with Drive Thru	3,257.00	3,257.00	3257.00	6,822,622	6,822,622
High Turnover (Sit Down Restaurant)	2,739.50	2,739.50	2739.50	6,962,775	6,962,775
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	2,067.00	2,067.00	2067.00	5,356,416	5,356,416
Regional Shopping Center	635.58	635.58	635.58	1,667,397	1,667,397
Total	16,400.84	16,400.84	16,400.84	46,342,852	46,342,852

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	89	11	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	83	0	17
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	69	0	31
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	79	0	21
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	78	0	22
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	76	0	24

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Enclosed Parking with Elevator	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant w/o Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant with Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
High Turnover (Sit Down Restaurant)	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Non-Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Quality Restaurant	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Regional Shopping Center	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
NaturalGas Unmitigated	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	36004.3	0.3883	3.3181	1.4119	0.0212		0.2683	0.2683		0.2683	0.2683		4,235.8031	4,235.8031	0.0812	0.0777	4,260.9743
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1420.93	0.0153	0.1393	0.1170	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.1684	167.1684	3.2000e-003	3.0600e-003	168.1618
Fast Food Restaurant with Drive Thru	7104.66	0.0766	0.6965	0.5851	4.1800e-003		0.0529	0.0529		0.0529	0.0529		835.8421	835.8421	0.0160	0.0153	840.8091
High Turnover (Sit Down Restaurant)	17761.6	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	17761.6	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Regional Shopping Center	98.6301	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004		11.6036	11.6036	2.2000e-004	2.1000e-004	11.6725
Total		**0.8644**	**7.6463**	**5.0476**	**0.0472**		**0.5972**	**0.5972**		**0.5972**	**0.5972**		**9,429.6274**	**9,429.6274**	**0.1807**	**0.1729**	**9,485.6630**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	36.0043	0.3883	3.3181	1.4119	0.0212		0.2683	0.2683		0.2683	0.2683		4,235.8031	4,235.8031	0.0812	0.0777	4,260.9743
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.42093	0.0153	0.1393	0.1170	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.1684	167.1684	3.2000e-003	3.0600e-003	168.1618
Fast Food Restaurant with Drive Thru	7.10466	0.0766	0.6965	0.5851	4.1800e-003		0.0529	0.0529		0.0529	0.0529		835.8421	835.8421	0.0160	0.0153	840.8091
High Turnover (Sit Down Restaurant)	17.7616	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	17.7616	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Regional Shopping Center	0.0986301	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004		11.6036	11.6036	2.2000e-004	2.1000e-004	11.6725
Total		**0.8644**	**7.6463**	**5.0476**	**0.0472**		**0.5972**	**0.5972**		**0.5972**	**0.5972**		**9,429.6274**	**9,429.6274**	**0.1807**	**0.1729**	**9,485.6630**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Unmitigated	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.5508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.2324	19.0765	8.1177	0.1218		1.5424	1.5424		1.5424	1.5424	0.0000	24,352.9412	24,352.9412	0.4668	0.4465	24,497.6585
Landscaping	2.8958	1.0980	95.2696	5.0300e-003		0.5258	0.5258		0.5258	0.5258		171.4580	171.4580	0.1665		175.6194
Total	**35.1901**	**20.1745**	**103.3872**	**0.1268**		**2.0682**	**2.0682**		**2.0682**	**2.0682**	**0.0000**	**24,524.3992**	**24,524.3992**	**0.6332**	**0.4465**	**24,673.2779**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.5508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.2324	19.0765	8.1177	0.1218		1.5424	1.5424		1.5424	1.5424	0.0000	24,352.9412	24,352.9412	0.4668	0.4465	24,497.6585
Landscaping	2.8958	1.0980	95.2696	5.0300e-003		0.5258	0.5258		0.5258	0.5258		171.4580	171.4580	0.1665		175.6194
Total	**35.1901**	**20.1745**	**103.3872**	**0.1268**		**2.0682**	**2.0682**		**2.0682**	**2.0682**	**0.0000**	**24,524.3992**	**24,524.3992**	**0.6332**	**0.4465**	**24,673.2779**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Operations)

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	2,424.00	Space	3.42	969,600.00	0
Other Asphalt Surfaces	166.98	1000sqft	3.83	166,981.00	0
Other Non-Asphalt Surfaces	174.56	1000sqft	4.01	174,555.00	0
Fast Food Restaurant w/o Drive Thru	2.00	1000sqft	0.05	2,000.00	0
Fast Food Restaurant with Drive Thru	10.00	1000sqft	0.23	10,000.00	0
High Turnover (Sit Down Restaurant)	25.00	1000sqft	0.57	25,000.00	0
Quality Restaurant	25.00	1000sqft	0.57	25,000.00	0
Apartments Mid Rise	1,150.00	Dwelling Unit	1.48	1,288,000.00	2081
Regional Shopping Center	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

The Bowery Mixed-Use Project (Operations) - Orange County, Winter

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's model.

Vehicle Trips - See SWAPE comment about trip rates and trip purpose percentages.

Vehicle Emission Factors - See SWAPE comment about vehicle emission factors.

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Consistent with DEIR's model.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFireplaces	NumberGas	977.50	1,150.00
tblFireplaces	NumberNoFireplace	115.00	0.00
tblFireplaces	NumberWood	57.50	0.00
tblLandUse	LandUseSquareFeet	166,980.00	166,981.00
tblLandUse	LandUseSquareFeet	174,560.00	174,555.00
tblLandUse	LandUseSquareFeet	1,150,000.00	1,288,000.00
tblLandUse	LotAcreage	21.82	3.42
tblLandUse	LotAcreage	30.26	1.48
tblLandUse	Population	3,289.00	2,081.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	DV_TP	37.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00

tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	12.00	17.00
tblVehicleTrips	PB_TP	50.00	31.00
tblVehicleTrips	PB_TP	43.00	21.00
tblVehicleTrips	PB_TP	44.00	22.00
tblVehicleTrips	PB_TP	11.00	24.00
tblVehicleTrips	PR_TP	86.00	89.00
tblVehicleTrips	PR_TP	51.00	83.00
tblVehicleTrips	PR_TP	29.00	69.00
tblVehicleTrips	PR_TP	37.00	79.00
tblVehicleTrips	PR_TP	38.00	78.00
tblVehicleTrips	PR_TP	54.00	76.00
tblVehicleTrips	ST_TR	6.39	5.30
tblVehicleTrips	ST_TR	696.00	803.38
tblVehicleTrips	ST_TR	722.03	325.70
tblVehicleTrips	ST_TR	158.37	109.58
tblVehicleTrips	ST_TR	94.36	82.68
tblVehicleTrips	ST_TR	49.97	35.31
tblVehicleTrips	SU_TR	5.86	5.30
tblVehicleTrips	SU_TR	500.00	803.38
tblVehicleTrips	SU_TR	542.72	325.70
tblVehicleTrips	SU_TR	131.84	109.58
tblVehicleTrips	SU_TR	72.16	82.68
tblVehicleTrips	SU_TR	25.24	35.31

tblVehicleTrips	WD_TR	6.65	5.30
tblVehicleTrips	WD_TR	716.00	803.38
tblVehicleTrips	WD_TR	496.12	325.70
tblVehicleTrips	WD_TR	127.15	109.58
tblVehicleTrips	WD_TR	89.95	82.68
tblVehicleTrips	WD_TR	42.70	35.31
tblWoodstoves	NumberCatalytic	57.50	0.00
tblWoodstoves	NumberNoncatalytic	57.50	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Energy	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
Mobile	22.1358	89.5904	272.5261	1.0367	98.3073	0.7838	99.0910	26.2886	0.7290	27.0176		105,389.1884	105,389.1884	4.4479		105,500.3869
Total	**58.1902**	**117.4111**	**380.9609**	**1.2107**	**98.3073**	**3.4492**	**101.7564**	**26.2886**	**3.3944**	**29.6830**	**0.0000**	**139,343.2149**	**139,343.2149**	**5.2619**	**0.6194**	**139,659.3278**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Energy	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
Mobile	22.1358	89.5904	272.5261	1.0367	98.3073	0.7838	99.0910	26.2886	0.7290	27.0176		105,389.1884	105,389.1884	4.4479		105,500.3869
Total	**58.1902**	**117.4111**	**380.9609**	**1.2107**	**98.3073**	**3.4492**	**101.7564**	**26.2886**	**3.3944**	**29.6830**	**0.0000**	**139,343.2149**	**139,343.2149**	**5.2619**	**0.6194**	**139,659.3278**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	22.1358	89.5904	272.5261	1.0367	98.3073	0.7838	99.0910	26.2886	0.7290	27.0176		105,389.1884	105,389.1884	4.4479		105,500.3869
Unmitigated	22.1358	89.5904	272.5261	1.0367	98.3073	0.7838	99.0910	26.2886	0.7290	27.0176		105,389.1884	105,389.1884	4.4479		105,500.3869

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	6,095.00	6,095.00	6095.00	21,524,690	21,524,690
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	1,606.76	1,606.76	1606.76	4,008,951	4,008,951
Fast Food Restaurant with Drive Thru	3,257.00	3,257.00	3257.00	6,822,622	6,822,622
High Turnover (Sit Down Restaurant)	2,739.50	2,739.50	2739.50	6,962,775	6,962,775
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	2,067.00	2,067.00	2067.00	5,356,416	5,356,416
Regional Shopping Center	635.58	635.58	635.58	1,667,397	1,667,397
Total	16,400.84	16,400.84	16,400.84	46,342,852	46,342,852

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	89	11	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	83	0	17
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	69	0	31
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	79	0	21
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	78	0	22
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	76	0	24

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Enclosed Parking with Elevator	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant w/o Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Fast Food Restaurant with Drive Thru	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
High Turnover (Sit Down Restaurant)	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Other Non-Asphalt Surfaces	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Quality Restaurant	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Regional Shopping Center	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630
NaturalGas Unmitigated	0.8644	7.6462	5.0476	0.0472		0.5972	0.5972		0.5972	0.5972		9,429.6274	9,429.6274	0.1807	0.1729	9,485.6630

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	36004.3	0.3883	3.3181	1.4119	0.0212		0.2683	0.2683		0.2683	0.2683		4,235.8031	4,235.8031	0.0812	0.0777	4,260.9743
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1420.93	0.0153	0.1393	0.1170	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.1684	167.1684	3.2000e-003	3.0600e-003	168.1618
Fast Food Restaurant with Drive Thru	7104.66	0.0766	0.6965	0.5851	4.1800e-003		0.0529	0.0529		0.0529	0.0529		835.8421	835.8421	0.0160	0.0153	840.8091
High Turnover (Sit Down Restaurant)	17761.6	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	17761.6	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Regional Shopping Center	98.6301	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004		11.6036	11.6036	2.2000e-004	2.1000e-004	11.6725
Total		**0.8644**	**7.6463**	**5.0476**	**0.0472**		**0.5972**	**0.5972**		**0.5972**	**0.5972**		**9,429.6274**	**9,429.6274**	**0.1807**	**0.1729**	**9,485.6630**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	36.0043	0.3883	3.3181	1.4119	0.0212		0.2683	0.2683		0.2683	0.2683		4,235.8031	4,235.8031	0.0812	0.0777	4,260.9743
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.42093	0.0153	0.1393	0.1170	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.1684	167.1684	3.2000e-003	3.0600e-003	168.1618
Fast Food Restaurant with Drive Thru	7.10466	0.0766	0.6965	0.5851	4.1800e-003		0.0529	0.0529		0.0529	0.0529		835.8421	835.8421	0.0160	0.0153	840.8091
High Turnover (Sit Down Restaurant)	17.7616	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	17.7616	0.1916	1.7413	1.4627	0.0105		0.1323	0.1323		0.1323	0.1323		2,089.6052	2,089.6052	0.0401	0.0383	2,102.0226
Regional Shopping Center	0.0986301	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004		11.6036	11.6036	2.2000e-004	2.1000e-004	11.6725
Total		**0.8644**	**7.6463**	**5.0476**	**0.0472**		**0.5972**	**0.5972**		**0.5972**	**0.5972**		**9,429.6274**	**9,429.6274**	**0.1807**	**0.1729**	**9,485.6630**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779
Unmitigated	35.1901	20.1745	103.3872	0.1268		2.0682	2.0682		2.0682	2.0682	0.0000	24,524.3992	24,524.3992	0.6332	0.4465	24,673.2779

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.5508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.2324	19.0765	8.1177	0.1218		1.5424	1.5424		1.5424	1.5424	0.0000	24,352.9412	24,352.9412	0.4668	0.4465	24,497.6585
Landscaping	2.8958	1.0980	95.2696	5.0300e-003		0.5258	0.5258		0.5258	0.5258		171.4580	171.4580	0.1665		175.6194
Total	**35.1901**	**20.1745**	**103.3872**	**0.1268**		**2.0682**	**2.0682**		**2.0682**	**2.0682**	**0.0000**	**24,524.3992**	**24,524.3992**	**0.6332**	**0.4465**	**24,673.2779**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5111					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	27.5508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	2.2324	19.0765	8.1177	0.1218		1.5424	1.5424		1.5424	1.5424	0.0000	24,352.9412	24,352.9412	0.4668	0.4465	24,497.6585
Landscaping	2.8958	1.0980	95.2696	5.0300e-003		0.5258	0.5258		0.5258	0.5258		171.4580	171.4580	0.1665		175.6194
Total	**35.1901**	**20.1745**	**103.3872**	**0.1268**		**2.0682**	**2.0682**		**2.0682**	**2.0682**	**0.0000**	**24,524.3992**	**24,524.3992**	**0.6332**	**0.4465**	**24,673.2779**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars)

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Vehicle Trips - Consistent with DEIR's model.

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars) - Orange County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0736	0.0736	0.0000	0.0000	0.0737
Maximum	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0736**	**0.0736**	**0.0000**	**0.0000**	**0.0737**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0736	0.0736	0.0000	0.0000	0.0737
Maximum	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0736**	**0.0736**	**0.0000**	**0.0000**	**0.0737**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Energy	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	1,048.9933	1,048.9933	0.0410	9.9700e-003	1,052.9908
Mobile	0.0896	0.1710	1.8166	6.4800e-003	0.6265	3.9100e-003	0.6304	0.1663	3.6100e-003	0.1699	0.0000	586.0116	586.0116	0.0130	0.0000	586.3367
Waste						0.0000	0.0000		0.0000	0.0000	53.3927	0.0000	53.3927	3.1554	0.0000	132.2782
Water						0.0000	0.0000		0.0000	0.0000	15.5622	203.5086	219.0707	1.6068	0.0395	271.0053
Total	**0.9652**	**0.2661**	**1.8991**	**7.0500e-003**	**0.6265**	**0.0111**	**0.6377**	**0.1663**	**0.0108**	**0.1771**	**68.9549**	**1,838.5187**	**1,907.4736**	**4.8162**	**0.0495**	**2,042.6166**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Energy	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	1,048.9933	1,048.9933	0.0410	9.9700e-003	1,052.9908
Mobile	0.0896	0.1710	1.8166	6.4800e-003	0.6265	3.9100e-003	0.6304	0.1663	3.6100e-003	0.1699	0.0000	586.0116	586.0116	0.0130	0.0000	586.3367
Waste						0.0000	0.0000		0.0000	0.0000	53.3927	0.0000	53.3927	3.1554	0.0000	132.2782
Water						0.0000	0.0000		0.0000	0.0000	15.5622	203.5086	219.0707	1.6068	0.0395	271.0053
Total	**0.9652**	**0.2661**	**1.8991**	**7.0500e-003**	**0.6265**	**0.0111**	**0.6377**	**0.1663**	**0.0108**	**0.1771**	**68.9549**	**1,838.5187**	**1,907.4736**	**4.8162**	**0.0495**	**2,042.6166**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0736	0.0736	0.0000	0.0000	0.0737
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0736**	**0.0736**	**0.0000**	**0.0000**	**0.0737**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0736	0.0736	0.0000	0.0000	0.0737
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0736**	**0.0736**	**0.0000**	**0.0000**	**0.0737**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0896	0.1710	1.8166	6.4800e-003	0.6265	3.9100e-003	0.6304	0.1663	3.6100e-003	0.1699	0.0000	586.0116	586.0116	0.0130	0.0000	586.3367
Unmitigated	0.0896	0.1710	1.8166	6.4800e-003	0.6265	3.9100e-003	0.6304	0.1663	3.6100e-003	0.1699	0.0000	586.0116	586.0116	0.0130	0.0000	586.3367

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.595976	0.047720	0.227789	0.128515	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	945.5323	945.5323	0.0390	8.0800e-003	948.9149
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	945.5323	945.5323	0.0390	8.0800e-003	948.9149
NaturalGas Mitigated	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
NaturalGas Unmitigated	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	1.93879e+006	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
Total		**0.0105**	**0.0950**	**0.0798**	**5.7000e-004**		**7.2200e-003**	**7.2200e-003**		**7.2200e-003**	**7.2200e-003**	**0.0000**	**103.4610**	**103.4610**	**1.9800e-003**	**1.9000e-003**	**104.0758**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	1.93879e+006	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
Total		**0.0105**	**0.0950**	**0.0798**	**5.7000e-004**		**7.2200e-003**	**7.2200e-003**		**7.2200e-003**	**7.2200e-003**	**0.0000**	**103.4610**	**103.4610**	**1.9800e-003**	**1.9000e-003**	**104.0758**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	2.96757e+006	945.5323	0.0390	8.0800e-003	948.9149
Total		**945.5323**	**0.0390**	**8.0800e-003**	**948.9149**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	2.96757e+006	945.5323	0.0390	8.0800e-003	948.9149
Total		**945.5323**	**0.0390**	**8.0800e-003**	**948.9149**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Unmitigated	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Total	**0.8651**	**3.0000e-005**	**2.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2600e-003**	**5.2600e-003**	**1.0000e-005**	**0.0000**	**5.6200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Total	**0.8651**	**3.0000e-005**	**2.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2600e-003**	**5.2600e-003**	**1.0000e-005**	**0.0000**	**5.6200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	219.0707	1.6068	0.0395	271.0053
Unmitigated	219.0707	1.6068	0.0395	271.0053

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	49.0528 / 0	219.0707	1.6068	0.0395	271.0053
Total		**219.0707**	**1.6068**	**0.0395**	**271.0053**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	49.0528 / 0	219.0707	1.6068	0.0395	271.0053
Total		**219.0707**	**1.6068**	**0.0395**	**271.0053**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.3927	3.1554	0.0000	132.2782
Unmitigated	53.3927	3.1554	0.0000	132.2782

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	263.03	53.3927	3.1554	0.0000	132.2782
Total		**53.3927**	**3.1554**	**0.0000**	**132.2782**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	263.03	53.3927	3.1554	0.0000	132.2782
Total		**53.3927**	**3.1554**	**0.0000**	**132.2782**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars)

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Vehicle Trips - Consistent with DEIR's model.

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars) - Orange County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455	0.0000	168.9210	168.9210	4.1500e-003	0.0000	169.0249
Maximum	**0.0618**	**0.0405**	**0.5351**	**1.6900e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**	**0.0000**	**168.9210**	**168.9210**	**4.1500e-003**	**0.0000**	**169.0249**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455	0.0000	168.9210	168.9210	4.1500e-003	0.0000	169.0249
Maximum	**0.0618**	**0.0405**	**0.5351**	**1.6900e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**	**0.0000**	**168.9210**	**168.9210**	**4.1500e-003**	**0.0000**	**169.0249**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	0.5984	0.9562	12.0657	0.0424	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,231.8267	4,231.8267	0.0938		4,234.1721
Total	**5.3965**	**1.4772**	**12.5250**	**0.0456**	**4.0109**	**0.0643**	**4.0752**	**1.0632**	**0.0624**	**1.1256**		**4,856.7840**	**4,856.7840**	**0.1059**	**0.0115**	**4,862.8460**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	0.5984	0.9562	12.0657	0.0424	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,231.8267	4,231.8267	0.0938		4,234.1721
Total	**5.3965**	**1.4772**	**12.5250**	**0.0456**	**4.0109**	**0.0643**	**4.0752**	**1.0632**	**0.0624**	**1.1256**		**4,856.7840**	**4,856.7840**	**0.1059**	**0.0115**	**4,862.8460**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**0.0618**	**0.0405**	**0.5351**	**1.6900e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**		**168.9210**	**168.9210**	**4.1500e-003**		**169.0249**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0618	0.0405	0.5351	1.6900e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		168.9210	168.9210	4.1500e-003		169.0249
Total	**0.0618**	**0.0405**	**0.5351**	**1.6900e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**		**168.9210**	**168.9210**	**4.1500e-003**		**169.0249**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5984	0.9562	12.0657	0.0424	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,231.8267	4,231.8267	0.0938		4,234.1721
Unmitigated	0.5984	0.9562	12.0657	0.0424	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,231.8267	4,231.8267	0.0938		4,234.1721

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.595976	0.047720	0.227789	0.128515	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
NaturalGas Unmitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5311.74	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5.31174	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Unmitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars)

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Vehicle Trips - Consistent with DEIR's model.

The Bowery Mixed-Use Project (Existing Operations - Passenger Cars) - Orange County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455	0.0000	159.8661	159.8661	3.9400e-003	0.0000	159.9645
Maximum	**0.0697**	**0.0446**	**0.4954**	**1.6000e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**	**0.0000**	**159.8661**	**159.8661**	**3.9400e-003**	**0.0000**	**159.9645**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455	0.0000	159.8661	159.8661	3.9400e-003	0.0000	159.9645
Maximum	**0.0697**	**0.0446**	**0.4954**	**1.6000e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**	**0.0000**	**159.8661**	**159.8661**	**3.9400e-003**	**0.0000**	**159.9645**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	0.5790	1.0494	11.1609	0.0402	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,005.1159	4,005.1159	0.0889		4,007.3378
Total	**5.3771**	**1.5704**	**11.6202**	**0.0433**	**4.0109**	**0.0643**	**4.0752**	**1.0632**	**0.0624**	**1.1256**		**4,630.0732**	**4,630.0732**	**0.1010**	**0.0115**	**4,636.0117**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	0.5790	1.0494	11.1609	0.0402	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,005.1159	4,005.1159	0.0889		4,007.3378
Total	**5.3771**	**1.5704**	**11.6202**	**0.0433**	**4.0109**	**0.0643**	**4.0752**	**1.0632**	**0.0624**	**1.1256**		**4,630.0732**	**4,630.0732**	**0.1010**	**0.0115**	**4,636.0117**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**0.0697**	**0.0446**	**0.4954**	**1.6000e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**		**159.8661**	**159.8661**	**3.9400e-003**		**159.9645**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0697	0.0446	0.4954	1.6000e-003	0.1677	1.1200e-003	0.1688	0.0445	1.0300e-003	0.0455		159.8661	159.8661	3.9400e-003		159.9645
Total	**0.0697**	**0.0446**	**0.4954**	**1.6000e-003**	**0.1677**	**1.1200e-003**	**0.1688**	**0.0445**	**1.0300e-003**	**0.0455**		**159.8661**	**159.8661**	**3.9400e-003**		**159.9645**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5790	1.0494	11.1609	0.0402	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,005.1159	4,005.1159	0.0889		4,007.3378
Unmitigated	0.5790	1.0494	11.1609	0.0402	4.0109	0.0246	4.0355	1.0632	0.0227	1.0859		4,005.1159	4,005.1159	0.0889		4,007.3378

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.595976	0.047720	0.227789	0.128515	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
NaturalGas Unmitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5311.74	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5.31174	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Unmitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Trucks)

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Vehicle Trips - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - Consistent with DEIR's model.

Vehicle Emission Factors -

Trips and VMT -

The Bowery Mixed-Use Project (Existing Operations - Trucks) - Orange County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.84
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.07
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Energy	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	1,048.9933	1,048.9933	0.0410	9.9700e-003	1,052.9908
Mobile	0.3659	12.9137	3.1569	0.0309	0.7238	0.0526	0.7764	0.2004	0.0504	0.2508	0.0000	3,095.1087	3,095.1087	0.3214	0.0000	3,103.1434
Waste						0.0000	0.0000		0.0000	0.0000	53.3927	0.0000	53.3927	3.1554	0.0000	132.2782
Water						0.0000	0.0000		0.0000	0.0000	15.5622	203.5086	219.0707	1.6068	0.0395	271.0053
Total	**1.2414**	**13.0087**	**3.2394**	**0.0314**	**0.7238**	**0.0599**	**0.7836**	**0.2004**	**0.0576**	**0.2580**	**68.9549**	**4,347.6158**	**4,416.5707**	**5.1246**	**0.0495**	**4,559.4233**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Energy	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	1,048.9933	1,048.9933	0.0410	9.9700e-003	1,052.9908
Mobile	0.3659	12.9137	3.1569	0.0309	0.7238	0.0526	0.7764	0.2004	0.0504	0.2508	0.0000	3,095.1087	3,095.1087	0.3214	0.0000	3,103.1434
Waste						0.0000	0.0000		0.0000	0.0000	53.3927	0.0000	53.3927	3.1554	0.0000	132.2782
Water						0.0000	0.0000		0.0000	0.0000	15.5622	203.5086	219.0707	1.6068	0.0395	271.0053
Total	**1.2414**	**13.0087**	**3.2394**	**0.0314**	**0.7238**	**0.0599**	**0.7836**	**0.2004**	**0.0576**	**0.2580**	**68.9549**	**4,347.6158**	**4,416.5707**	**5.1246**	**0.0495**	**4,559.4233**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3659	12.9137	3.1569	0.0309	0.7238	0.0526	0.7764	0.2004	0.0504	0.2508	0.0000	3,095.1087	3,095.1087	0.3214	0.0000	3,103.1434
Unmitigated	0.3659	12.9137	3.1569	0.0309	0.7238	0.0526	0.7764	0.2004	0.0504	0.2508	0.0000	3,095.1087	3,095.1087	0.3214	0.0000	3,103.1434

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.000000	0.000000	0.000000	0.000000	0.085799	0.000000	0.071006	0.843195	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	945.5323	945.5323	0.0390	8.0800e-003	948.9149
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	945.5323	945.5323	0.0390	8.0800e-003	948.9149
NaturalGas Mitigated	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
NaturalGas Unmitigated	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	1.93879e+006	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
Total		**0.0105**	**0.0950**	**0.0798**	**5.7000e-004**		**7.2200e-003**	**7.2200e-003**		**7.2200e-003**	**7.2200e-003**	**0.0000**	**103.4610**	**103.4610**	**1.9800e-003**	**1.9000e-003**	**104.0758**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	1.93879e+006	0.0105	0.0950	0.0798	5.7000e-004		7.2200e-003	7.2200e-003		7.2200e-003	7.2200e-003	0.0000	103.4610	103.4610	1.9800e-003	1.9000e-003	104.0758
Total		**0.0105**	**0.0950**	**0.0798**	**5.7000e-004**		**7.2200e-003**	**7.2200e-003**		**7.2200e-003**	**7.2200e-003**	**0.0000**	**103.4610**	**103.4610**	**1.9800e-003**	**1.9000e-003**	**104.0758**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	2.96757e+006	945.5323	0.0390	8.0800e-003	948.9149
Total		**945.5323**	**0.0390**	**8.0800e-003**	**948.9149**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	2.96757e+006	945.5323	0.0390	8.0800e-003	948.9149
Total		**945.5323**	**0.0390**	**8.0800e-003**	**948.9149**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Unmitigated	0.8651	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Total	**0.8651**	**3.0000e-005**	**2.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2600e-003**	**5.2600e-003**	**1.0000e-005**	**0.0000**	**5.6200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7665					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6000e-004	3.0000e-005	2.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2600e-003	5.2600e-003	1.0000e-005	0.0000	5.6200e-003
Total	**0.8651**	**3.0000e-005**	**2.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.2600e-003**	**5.2600e-003**	**1.0000e-005**	**0.0000**	**5.6200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	219.0707	1.6068	0.0395	271.0053
Unmitigated	219.0707	1.6068	0.0395	271.0053

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	49.0528 / 0	219.0707	1.6068	0.0395	271.0053
Total		**219.0707**	**1.6068**	**0.0395**	**271.0053**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	49.0528 / 0	219.0707	1.6068	0.0395	271.0053
Total		**219.0707**	**1.6068**	**0.0395**	**271.0053**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.3927	3.1554	0.0000	132.2782
Unmitigated	53.3927	3.1554	0.0000	132.2782

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	263.03	53.3927	3.1554	0.0000	132.2782
Total		**53.3927**	**3.1554**	**0.0000**	**132.2782**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	263.03	53.3927	3.1554	0.0000	132.2782
Total		**53.3927**	**3.1554**	**0.0000**	**132.2782**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Trucks)

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Vehicle Trips - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - Consistent with DEIR's model.

Vehicle Emission Factors -

Trips and VMT -

The Bowery Mixed-Use Project (Existing Operations - Trucks) - Orange County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.84
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.07
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	2.2666	79.0906	19.2333	0.1959	4.6223	0.3279	4.9502	1.2775	0.3137	1.5912		21,648.8393	21,648.8393	2.1976		21,703.7780
Total	**7.0647**	**79.6116**	**19.6927**	**0.1990**	**4.6223**	**0.3676**	**4.9899**	**1.2775**	**0.3534**	**1.6309**		**22,273.7966**	**22,273.7966**	**2.2097**	**0.0115**	**22,332.4519**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	2.2666	79.0906	19.2333	0.1959	4.6223	0.3279	4.9502	1.2775	0.3137	1.5912		21,648.8393	21,648.8393	2.1976		21,703.7780
Total	**7.0647**	**79.6116**	**19.6927**	**0.1990**	**4.6223**	**0.3676**	**4.9899**	**1.2775**	**0.3534**	**1.6309**		**22,273.7966**	**22,273.7966**	**2.2097**	**0.0115**	**22,332.4519**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.2666	79.0906	19.2333	0.1959	4.6223	0.3279	4.9502	1.2775	0.3137	1.5912		21,648.8393	21,648.8393	2.1976		21,703.7780
Unmitigated	2.2666	79.0906	19.2333	0.1959	4.6223	0.3279	4.9502	1.2775	0.3137	1.5912		21,648.8393	21,648.8393	2.1976		21,703.7780

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.000000	0.000000	0.000000	0.000000	0.085799	0.000000	0.071006	0.843195	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
NaturalGas Unmitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5311.74	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5.31174	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Unmitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Bowery Mixed-Use Project (Existing Operations - Trucks)

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	212.12	1000sqft	4.87	212,121.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Consistent with DEIR's model.

Construction Phase - Consistent with DEIR's model.

Off-road Equipment - Consistent with DEIR's.

Vehicle Trips - Consistent with DEIR's model.

Vehicle Emission Factors - See SWAPE comment about emission factors.

Fleet Mix - Consistent with DEIR's model.

Vehicle Emission Factors - Consistent with DEIR's model.

Vehicle Emission Factors -

Trips and VMT -

The Bowery Mixed-Use Project (Existing Operations - Trucks) - Orange County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.02	0.84
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.09
tblFleetMix	LHD2	5.7970e-003	0.00
tblFleetMix	MCY	4.8300e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.0410e-003	0.00
tblFleetMix	MHD	0.02	0.07
tblFleetMix	OBUS	1.6370e-003	0.00
tblFleetMix	SBUS	5.8300e-004	0.00
tblFleetMix	UBUS	1.6330e-003	0.00
tblLandUse	LandUseSquareFeet	212,120.00	212,121.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	ST_TR	2.49	1.34
tblVehicleTrips	SU_TR	0.73	0.66
tblVehicleTrips	WD_TR	6.83	1.79

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	2.3409	79.7184	20.6349	0.1922	4.6223	0.3361	4.9584	1.2775	0.3215	1.5990		21,238.4091	21,238.4091	2.2719		21,295.2064
Total	**7.1390**	**80.2394**	**21.0942**	**0.1953**	**4.6223**	**0.3758**	**4.9980**	**1.2775**	**0.3612**	**1.6387**		**21,863.3664**	**21,863.3664**	**2.2840**	**0.0115**	**21,923.8804**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Energy	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Mobile	2.3409	79.7184	20.6349	0.1922	4.6223	0.3361	4.9584	1.2775	0.3215	1.5990		21,238.4091	21,238.4091	2.2719		21,295.2064
Total	**7.1390**	**80.2394**	**21.0942**	**0.1953**	**4.6223**	**0.3758**	**4.9980**	**1.2775**	**0.3612**	**1.6387**		**21,863.3664**	**21,863.3664**	**2.2840**	**0.0115**	**21,923.8804**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/11/2019	11/11/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3409	79.7184	20.6349	0.1922	4.6223	0.3361	4.9584	1.2775	0.3215	1.5990		21,238.4091	21,238.4091	2.2719		21,295.2064
Unmitigated	2.3409	79.7184	20.6349	0.1922	4.6223	0.3361	4.9584	1.2775	0.3215	1.5990		21,238.4091	21,238.4091	2.2719		21,295.2064

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	379.69	284.24	140.00	1,679,401	1,679,401
Total	379.69	284.24	140.00	1,679,401	1,679,401

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	16.60	8.40	6.90	100.00	0.00	0.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.000000	0.000000	0.000000	0.000000	0.085799	0.000000	0.071006	0.843195	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
NaturalGas Unmitigated	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5311.74	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	5.31174	0.0573	0.5208	0.4374	3.1200e-003		0.0396	0.0396		0.0396	0.0396		624.9109	624.9109	0.0120	0.0115	628.6244
Total		**0.0573**	**0.5208**	**0.4374**	**3.1200e-003**		**0.0396**	**0.0396**		**0.0396**	**0.0396**		**624.9109**	**624.9109**	**0.0120**	**0.0115**	**628.6244**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Unmitigated	4.7408	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5387					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0700e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0464	0.0464	1.3000e-004		0.0496
Total	**4.7408**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0464**	**0.0464**	**1.3000e-004**		**0.0496**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EXHIBIT 2

2 - 386

REQUEST FOR
Planning Commission Action

PLANNING COMMISSION MEETING DATE:

MAY 11, 2020

TITLE:

PUBLIC HEARING – FINAL ENVIRONMENTAL IMPACT REPORT NO. 2020-01, GENERAL PLAN AMENDMENT NO. 2020-02, AND AMENDMENT APPLICATION NO. 2020-01 TO FACILITATE CONSTRUCTION OF A MIXED-USE DEVELOPMENT AT 2300, 2310, AND 2320 SOUTH REDHILL AVENUE {STRATEGIC PLAN NOS. 3, 2; 5, 3}

Prepared by Jerry C. Guevara and Ali Pezeshkpour, AICP

Executive Director

PLANNING COMMISSION SECRETARY

APPROVED
- ☐ As Recommended
- ☐ As Amended
- ☐ Set Public Hearing For _____

DENIED
- ☐ Applicant's Request
- ☐ Staff Recommendation

CONTINUED TO _____

Planning Manager

RECOMMENDED ACTION

It is recommended that the Planning Commission recommend that the City Council take the following actions:

1. Adopt a resolution certifying Final Environmental Impact Report No. 2020-01 (SCH No. 2019080011), including adoption of environmental findings of fact pursuant to the California Environmental Quality Act, adoption of a Statement of Overriding Considerations, and adoption of a Mitigation Monitoring and Reporting Program;

2. Adopt a resolution approving General Plan Amendment (GPA) No. 2020-02; and

3. Adopt an ordinance approving Amendment Application (AA) No. 2020-01 to establish Specific Development No. 96.

Executive Summary

Jeremy Ogulnick, representing Arrimus Capital, is requesting approval of a general plan amendment and amendment application (zone change) to facilitate the construction of a mixed-use development known as The Bowery. The development would consist of four primary buildings and two freestanding commercial pads that would contain a total of 1,100 residential units and 80,000 square feet of leasable commercial area at 2300, 2310, and 2320 South Redhill Avenue. Pursuant to the California Environmental Quality Act (CEQA), the proposed development requires certification of an environmental impact report, adoption of environmental findings of fact and a statement of overriding considerations, and adoption of a mitigation monitoring and reporting program. It is recommended that the Planning Commission recommend approval of the request, as the project demonstrates high-quality site planning, design, and amenities; contains a mixture of land uses that promotes sustainable living integrated with commercial development and the site is close to jobs-rich employment centers; and contributes to the City's housing stock through both production of onsite units and payment of in-lieu affordable housing funds.

Table 1: Project and Location Information

Item	Information		
Project Address	2300, 2310, and 2320 South Redhill Avenue		
Nearest Intersection	Red Hill Avenue and Warner Avenue		
General Plan Designation	Professional and Administration Office (PAO)		
Zoning Designation	Light Industrial (M-1)		
Surrounding Land Uses	North	Industrial/Office in the City of Tustin	
	East	Commercial/Business in the Tustin Legacy Specific Plan	
	South	Industrial	
	West	Industrial/Office	
Site Size	14.58 gross acres (14.37 acres after dedications)		
Existing Site Development	The site is currently developed with three industrial buildings, one of which contains a temporary homeless shelter, and associated parking lots and landscaping		
Applicable Zoning Code Sections	Existing: SAMC Chapter 41, Article III, Division 18 (Light Industrial / M-1)	Proposed: SAMC Chapter 41, Article III, Division 26 (Specific Development / SD)	
Entitlements	SAMC Chapter 41, Article V, Division II (Amendments and Change to District Boundaries)		
Proposed Density (Units per Acre)	77		
Proposed Floor Area Ratio (FAR)	2.06		

Project Description

The project includes demolition and removal of three existing industrial buildings on the site as well as existing parking and landscape areas. Once the site is cleared, the applicant is seeking approval of several entitlements to facilitate construction of a mixed-use commercial and residential community that would contain 1,100 residential units, 80,000 square feet of leasable commercial area, landscaping, onsite amenities for the public and the community's residents, and parking.

Site Planning

City staff, the developer, and the architects worked closely to ensure the latest principles in site planning were successfully incorporated into the project. The project site is broken up by onsite lanes, paseos, and plazas, which results in a village of multiple buildings that are pedestrian in scale and easy to access by foot from any point on the project site. The project's defining features are the commercial plaza adjacent to the two freestanding commercial pad buildings, and the pedestrian paseo that leads from this commercial area between Buildings A and B to Building D. The commercial plaza is designed to provide an area for the developments residents, commercial patrons, and visitors that is furnished with seating and passive recreation features and is sheltered from the nearby Redhill and Warner intersection.

Moreover, the site plan has been designed to accommodate future connections to the adjacent property to the southwest. Two of the project site's private lanes can be reconfigured to connect to the adjacent property, further enhancing the proposed village concept. In the interim, however, these two private lanes will be landscaped and will not allow vehicle access; neither of these

landscaped lanes is included in the project's onsite open space calculations to ensure long-term accuracy of open space figures, should those private lanes ultimately become paved.

Residential Components

The residential component of the proposed project will be contained within four large buildings, each wrapping its own parking structure. Of the four buildings, three (Buildings A, B, and C) will be mixed-use with commercial components facing Redhill and Warner avenues, while the fourth building (Building D), toward the rear of the project site, will contain only residential units. Each structure will contain five levels of residential units. The three mixed-use structures will contain seven levels total, with the first two ground-floor levels occupied by commercial uses. Building heights will range between 56 and 94 feet. A description and breakdown of unit types is provided in Table 2: Total Units by Type below.

Table 2: Total Units by Type

Unit Type and Size Range	Quantity	Percent of Overall Project
Studio (634-760 sq. ft.)	228	21%
One-Bedroom (634-833 sq. ft.)	574	52%
Two-Bedroom (907-1,096 sq. ft.)	283	26%
Three-Bedroom (1,362 sq. ft.)	15	1%
Total	*1,100*	*100*

Commercial Areas

The project's commercial components will be contained in three of the project's mixed-use structures (Buildings A, B, and C), as well as two freestanding retail pads fronting Redhill Avenue. The commercial areas in Buildings A, B, and C will be designed to accommodate a range of uses common within mixed-use structures, such as cafes, small to mid-size retail, neighborhood markets, and service uses. The two freestanding retail pads will be designed to accommodate medium-intensity uses, such as large-format restaurants, food halls, fast-casual dining, and/or larger retail. Table 3 below provides a breakdown of the project's commercial component per building.

Table 3: Commercial Square Footage Distribution

Building	Commercial Square Footage
A	12,000
B	24,000
C	20,000
Freestanding Pad 1	20,000
Freestanding Pad 2	4,000
Total	*80,000*

Of the commercial areas within the mixed-use buildings, the Building B commercial area has been designed with double-volume capabilities, meaning that a two-story tenant could occupy the space, which is common at large-format restaurants and gymnasiums. All commercial components will be available to both residents and the general public wishing to patronize the

businesses. To ensure the commercial component of the project is constructed, the applicant has agreed to execute a Mutual Declaration of Acknowledgment and Acceptance of Approval Conditions.

Onsite Parking

Onsite parking is proposed in a combination of large, secured parking structures, a small surface parking lot, and in parallel spaces on the project's private lanes. The small surface parking lot will be located on Redhill Avenue and will contain 28 parking spaces. This lot will provide quick, convenient parking to passerby traffic near the project site. In the event the parking lot fills, additional parking will be available in the project site's multiple onsite parking structures.

The project site will contain four large, multi-level parking structures wrapped by the project's four primary mixed-use/residential structures (Buildings A, B, C, and D). These structures will contain parking for both residents, residential visitors, and customers and employees of the commercial components. The project will provide 2.0 parking spaces per residential unit and 5 spaces per 1,000 square feet of gross commercial area for a total of 2,600 parking spaces. Additional parking details are provided in Table 3: Onsite Parking below.

Of the total parking spaces provided, the project will construct 2,388 onsite parking spaces, which will be comprised of 1,988 residential stalls and 351 commercial stalls. Through mandatory onsite valet service, the 351 commercial stalls will be configured to allow up to an additional 49 valet stalls, achieving the commercial parking ratio of 5 spaces per 1,000 square feet (1 per 200 sq. ft.). The 1,988 residential stalls will be retrofit in select areas to contain 212 parking lifts, which will result in a residential parking ratio of 2.0 spaces per unit. The parking structures will be designed and engineered to incorporate installation of these vehicular lifts.

Table 3: Initial Onsite Parking

Building/Area	Quantity	Parking Spaces and Ratio
A	280 residential units	505 stalls and 55 lifts (560 spaces total); 2.0 per unit
B	244 residential units	441 stalls and 47 lifts (488 spaces total); 2.0 per unit
C	322 residential units	580 stalls and 64 lifts (644 spaces total); 2.0 per unit
D	254 residential units	462 stalls and 46 lifts (508 spaces total); 2.0 per unit
Commercial and Surface Parking Areas (Buildings A, B, and C, and two freestanding pads)	80,000 square feet	400, comprised of physical and valet spaces (1 space per 200 square feet)
Total Initial Onsite Parking		*2,388 spaces*

The applicant has prepared a parking management plan (PMP) (Exhibit 10) that contains details for managing the onsite commercial valet parking and installation of vehicular lifts. The PMP also details how valet services will meet the commercial component's customer and employee needs for onsite parking, for example when the project site's surface parking area reaches full capacity.

Architecture, Open Space, & Amenities

The project's six buildings are designed in a cohesive manner with unifying materials, floor heights, and articulation using contemporary architecture in an "industrial tech" style. High-quality building materials will ensure long-term durability and maintaining high value of the project, including metal trim, awnings, railing, slats, and cladding; brick veneers and high-quality light sand finish stucco; glass railing; and poured concrete forms. Onsite furniture and details, such as lighting, waste receptacles, benches, tables, and open space areas, have been designed to complement the site's contemporary architecture. High ground-floor window and ceiling heights will contribute to the high-quality commercial component of the project site, which has been designed to create a dynamic, commercial and residential village. These finishes and designs are consistent with the development standards and design guidelines found in the City's mixed-use zoning areas such as the Transit Zoning Code and Metro East Mixed Use (MEMU) Overlay Zone, as well as the Citywide Design Guidelines.

Open space and amenities will be provided on the site in a variety of means, including private unit balconies and patios, amenity decks atop parking structures, ground-level courtyards, the central paseo, and the central plaza. The residential open space areas will contain pools, courtyards, exercise areas, relief areas for pets, and other amenities typical to high-quality mixed-use developments found in Santa Ana and in Orange County. Based on a standard of two (2) acres of public park and/or recreational area per 1,000 residents (SAMC Sec. 35-108), the proposed project would require 4.2 acres of parkland to serve the new residents. The onsite total proposed open space is 183,363 square feet (4.21 acres), which is consistent with the SAMC standard and with other mixed-use projects that provide their own onsite public and private open space areas.

Housing Opportunity Ordinance Compliance

The City's inclusionary housing ordinance, known as the Housing Opportunity Ordinance (SAMC Sec. 41-1900 et seq.) applies to housing projects proposing five or more units that are also requesting an increase in allowable density or are located in certain sections of the City that were "up-zoned" to allow additional residential development pursuant to an overlay zone or after November 28, 2011. As the proposed project is located in a section of the City that does not presently allow construction of housing, the applicant's request is subject to the Housing Opportunity Ordinance (HOO) requirements of production of affordable housing or payment of in-lieu fees. Pursuant to SAMC Sec. 41-1904, the applicant has selected the option to pay in-lieu fees. Based on available figures for the project, the project will contribute an estimated $12,965,565 in in-lieu fees, which must be spent on production of affordable housing in the City of Santa Ana. Table 4 below illustrates the calculation methodology.

Table 4: HOO In-Lieu Fee Calculation

Estimated habitable square feet	In-lieu fee per habitable square foot	Final estimated total (habitable square feet multiplied by in-lieu fee)
864,371 SF	$15	$12,965,565

Project and Site Background

The subject site was developed with the three existing industrial buildings containing a total of 212,121 square feet between 1979 and 1985. The buildings served as a campus for Ricoh Company, Ltd., a multinational electronics and imaging corporation, which vacated the site in 2018. Following Ricoh's departure from the site, a variety of uses subsequently began occupying individual buildings on the project site. These include a warehouse/assembly use at 2310 South Redhill Avenue, and a temporary homeless shelter operated by Mercy House at 2320 South Redhill Avenue. Should the applicant's request be approved, all buildings on the subject property would be demolished in order to facilitate construction of the mixed-use development.

Analysis of the Issues

The applicant's request requires approval of several discretionary action applications, certification of an environmental impact report, and adoption of a mitigation monitoring and reporting program (MMRP) to facilitate construction of the mixed-use development. In analyzing the applicant's request, staff reviewed the project's site plan, mixture of land uses, onsite parking, the general plan amendment application, and the amendment application to establish a specific development zone. Additional analyses are provided in the California Environmental Quality Act (CEQA) and Economic Development sections of this staff report.

Site Plan

The project's site plan has been designed to integrate the project site into the surrounding community. The development's primary access points will be from a right-in, right-out driveway on Redhill Avenue, and from a signalized intersection on Warner Avenue. These access points have been designed to ensure the safety of residents and visitors of the project site, as well as commuters, employees, and residents of the surrounding community.

Onsite circulation has been designed to ensure a high-quality pedestrian experience, with wide sidewalks, a central paseo, and plazas and courtyards that buffer or separate pedestrians from onsite vehicular traffic. Moreover, the project has been broken into four primary buildings and two freestanding commercial pads, which reduces the overall massing of the project and creates a more pedestrian-scale village of buildings onsite. The two future roadway connections on the project site will allow the development to become integrated with the adjacent site to the southwest, should an application for redevelopment be approved. As of this writing, no application for redevelopment of the adjacent site to the southwest has been submitted for the City's consideration.

Mixture of Land Uses

The proposed development contains a large commercial component of 80,000 square feet of leasable retail, service, and restaurant area. This volume of commercial space complements the residents, visitors, and employees working and living on and around the project site.

The 80,000 square feet of leasable commercial area is among the largest commercial components proposed in recent mixed-use developments. For comparison, the Elan project (1660 East First

Street) approved in 2018 contains 603 residential units and 20,000 square feet of commercial space; the First American redevelopment (114 East Fifth Street) approved in 2019 contains 220 residential units and 12,350 square feet of commercial space, and The Heritage (2001 East Dyer Road), which is under construction nearby, contains 1,221 residential units and 18,400 square feet of net new commercial square footage.

The mixture of land uses on the project site, including residential, commercial, and open space, will contribute to the formation a dynamic mixed-use village. The commercial and open space components will serve both residents and visitors of the project site, as well as the large daytime employee population working in the project site's immediate vicinity.

Onsite Parking

Parking will be provided at the rate of 2.0 spaces per residential unit, inclusive of guest parking, and 5 spaces per 1,000 square feet for the commercial component. To maximize onsite parking, the applicant will utilize valet and vehicular lifts detailed in the PMP.

The applicant proposes to construct parking at the rate of 2.0 parking spaces per residential unit and to achieve the 5 spaces per 1,000 square feet of commercial area rate (400 commercial parking spaces) through the use of self-parking and valet services. The SD zoning document drafted for the project requires that the project continually provide valet services to achieve the 400 parking space requirement for commercial areas and the 212 vehicular lifts to achieve the 2.0 parking space per unit requirement for the residential components. The 2.0 parking spaces per residential unit ratio, which includes guest parking, is consistent with other mixed-use areas of the City, including the Harbor Boulevard Mixed-Use Transit Corridor Specific Plan (Harbor Plan) and the MEMU Overlay Zone. A comparison of parking standards in the City's various mixed-use zones is provided in Table 5 below.

The proposed onsite parking ratios are expected to sufficiently address the mixed-use project site's needs. Because of the mixed-use nature of the project site, opportunities for shared parking exist as the residents are more likely to walk or bicycle to the neighborhood-serving uses on the project site, such as the commercial components and the open space areas. Moreover, the PMP's strategies of maximizing the built onsite parking through valet services will ensure every constructed parking space on site is utilized, and vehicular lifts will ensure the residential parking ratio of 2.0 spaces per residential unit is consistent with other code areas in the City and is sufficient for resident needs.

Table 5: Mixed-Use Zoning District Parking Space Requirements

Zoning District	Residential Requirement, Including Guest	Commercial Requirement
Transit Zoning Code (SD-84)	Varies; 2.15 to 2.25 per unit	Varies; 1 per 200 sq. ft. to 1 per 400 sq. ft.
Harbor Plan	Varies; 1.50 to 1.75 per unit	1 per 400 sq. ft.
MEMU Overlay Zone	Varies; 2.0 to 2.25 per unit	Varies; 3 per 1,000 sq. ft. for office uses. Mixed-use developments with 10 percent or less of the gross floor area of the buildings dedicated to commercial uses need not provide extra commercial parking spaces.
The Bowery (Proposed Project)	*2.0 per unit*	*5 per 1,000 sq. ft. (SAMC general retail/service parking rate)*

General Plan Amendment

To facilitate the applicant's request, a general plan amendment application and an amendment application are required to change the subject site's general plan land use and zoning district designations. The applicant's requests are consistent with the changes required for similar projects that were on properties not previous zoned for such developments, such as The Heritage at 2001 East Dyer Road and Elan at 1660 East First Street.

The general plan amendment is required to change the subject site's current land use designation in the Santa Ana General Plan from Professional and Administration Office (PAO) to District Center (DC). The PAO designation allows high-quality professional and administrative office uses, as well as supportive limited commercial uses. Examples include office buildings, medical and dental practices, pharmacies, and cafes. Conversely, the proposed DC land use designation would be consistent with the proposed development. The DC land use designation allows medium- to high-intensity mixed-use developments such as the proposed project, and areas designated DC are typically located on the City's major thoroughfares. Residential development within these areas are allowed at a density of up to 90 dwelling units per acre.

The subject site's location at the intersection of Redhill and Warner avenues, near the Costa Mesa (SR-55) Freeway, renders the DC designation appropriate for the proposed mixed-use development. Moreover, the subject site is in the vicinity of The Heritage, which was entitled in 2016, and the Tustin Legacy Specific Plan, a large master-planned community across Redhill Avenue in the City of Tustin that allows a mixture of land uses that are compatible with and complement the proposed development.

If approved, the project would support several goals and policies of the Housing Element. First, the project would be consistent with Goal 2, which encourages diversity of quality housing, affordability levels, and living experiences that accommodate Santa Ana's residents and workforce of all household types, income levels and age groups to foster an inclusive community. Second, the project would support Goal 4, to provide adequate rental and ownership housing opportunities and supportive services. Further, the project would be consistent with Policy HE-2.2 to create District Centers with high intensity, mixed-use urban villages and pedestrian oriented experiences. Finally, the project would be consistent with Policy HE-2.4 to facilitate diverse types, prices and sizes of housing. The project would also be consistent with goals of the Land Use Element, including Goal 1 to promote a balance of land uses to address basic community needs, and Goal 6 to reduce residential overcrowding to promote public health and safety. The proposed project will provide additional market rate housing in the City, thereby assisting in addressing the shortage of available housing within the region. The project will also provide additional housing options for those seeking housing within the jobs rich southeastern area of the City adjacent to the Irvine Business Complex. The development will also support Urban Design Element Goal 1 to improve the physical appearance of the City through development of a district that projects a sense of place, positive community image, and quality environment.

In addition, the request for the proposed general plan amendment is consistent with the City's comprehensive General Plan update currently underway. The City has recently initiated the

process to update its General Plan, which is the blueprint for future development. A key component of the update is to focus new growth and development along major corridors reducing the pressure for growth in low-density neighborhoods and to identify areas for future development, including but not limited to higher density residential development. As part of the update, the City has evaluated new land use designations for the General Plan and development opportunities in the area surrounding the project site known as the 55 Freeway/Dyer Road Focus Area. Identified goals for this area include protecting the industrial and employment base, attracting economic activity into the area, providing complementary housing, and maintaining hotel and commercial uses. The proposed general plan amendment and mixed-use development are consistent with the goals of the broader 55 Freeway/Dyer Road Focus Area considered in the comprehensive General Plan update and would provide complementary housing, contribute to the employment base, attract economic activity, and provide complementary commercial uses.

Amendment Application (Zone Change)

The applicant's request to change the existing zoning of Light Industrial (M-1) to Specific Development (SD) will facilitate construction of the proposed development. The SD is the appropriate zoning designation for the subject site as the M-1 zoning allows primarily industrial activities with ancillary, supportive commercial uses such as restaurants. Residential uses and a full spectrum of commercial uses are prohibited by the M-1 zoning district. Alternatively, the SD zoning district allows flexibility for developments that are master-planned and often mixed-use in nature, such as the proposed project.

The SD is established for the purpose of protecting and promoting the public health, safety and general welfare of the City and its residents. This new zoning designation for the site is crafted to be consistent with the proposed project. The project's draft SD zoning designation, if approved, would contain allowable uses, development standards, parking requirements, landscaping standards, and signage regulations that address the specific needs of the development. The SD document will be of a format consistent with recently-approved SD documents for similar projects such as The Heritage and Legacy Sunflower at 651 West Sunflower Avenue. In addition, the proposed SD to allow the use of the site for residential development is supported as the location has elements to make the site a viable mixed-use commercial and residential development. The elements include having regional access to freeway and transportation systems and being within proximity to employment centers and nearby retail and commercial shopping opportunities.

The applicant's request for a zone change will also establish consistency with the proposed General Plan land use designation, and will assist with implementing the General Plan through the appropriate zoning designation. The zone change is also consistent with the goals identified in the 55 Freeway/Dyer Road Focus Area considered in the comprehensive General Plan update.

California Environmental Quality Act (CEQA)

The applicant submitted a development proposal that requires the approval of several discretionary applications. Given the size and location of the project, as well as the proposed zoning and general plan modifications, extensive environmental review was needed. After completion of the Initial

Study for the project, it was determined that the California Environmental Quality Act (CEQA) required the preparation and certification of an environmental impact report (EIR) for this project. The purpose of an EIR is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the way those significant effects can be mitigated or avoided. To determine what potential effects would be caused by the project, the Draft EIR analyzes issues related to Aesthetics; Air Quality; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population and Housing; Public Services and Recreation; Transportation; Tribal Cultural Resources; Utilities and Service Systems; and Project Alternatives. The Draft EIR analyzes the direct and indirect impacts resulting from construction and operation of the proposed project.

On July 26, 2019, the Notice of Availability was released to solicit comments regarding the scope and content of the Draft EIR (DEIR). A scoping meeting was held on August 15, 2019 with one (1) person in attendance and 10 written comment letters received at the conclusion of the 30-day public comment period. The comments were reviewed and addressed as required by CEQA. The comments are included as part of the Final EIR.

Three project alternatives were also analyzed within the document. These included a no build alternative, where the existing buildings would remain on site as is and be reoccupied by an office/industrial use (Alternative 1); a reduced multi-family project consisting of a 30 percent reduction in residential density and commercial square footages (Alternative 2); and build out of the site under the existing Professional zoning district development standards, which could result in an approximately 317,552-square foot light industrial office/industrial building (Alternative 3).

The Draft EIR determined that the proposed project would require mitigation related to aesthetics, air quality, biological resources, hazardous materials, construction noise and vibration, interior noise, transportation, and tribal resources. On January 3, 2020, the Draft EIR was circulated for review and comment to public, City Council, Planning Commission, local, regional and state agencies, and interested parties for a 45-day public comment review period that ended February 18, 2020. In addition, a Planning Commission work-study session was held on February 10, 2020 where staff presented proposed project and described the Draft EIR.

The City has evaluated the comments received from persons and agencies on the Draft EIR and completed detailed Response to Comments, revisions to the Draft EIR including clarifications and/or corrections to typographical errors, and a Mitigation Monitoring and Reporting Program (MMRP). The MMRP contains mitigation measures to address impacts to Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Transportation, and Tribal Cultural Resources. The response to comments, MMRP and Final EIR were published on April 27, 2020 for public review. The Draft EIR, responses to comments document, revisions to the Draft EIR, and the MMRP constitute the Final EIR for the project.

The EIR identifies five significant and unavoidable impact associated with this project, which pertain to Air Quality, Greenhouse Gas Emissions, and Transportation. Air Quality impacts stem from emissions from operation of the project exceeding SCAQMD's threshold for volatile organic compounds (VOCs) that would be derived from consumer products and vehicular activity that

neither the applicant nor the City have the ability to reduce. Greenhouse Gas Emissions impacts stem from approximately 60 percent of the GHG emissions being generated by vehicle trips. Neither the applicant nor the City can substantively or materially reduce the vehicular-source GHG emissions. Lastly, Transportation impacts stem from the project's requirement to pay fair share funds to improve right-turn overlap phasing at the intersections of Grand and Warner avenues and Redhill and Alton avenues, calculated at 5.93 and 8.57 percent, respectively, and to construct or fully fund right-turn overlap phasing at the intersection of Redhill Avenue and Barranca Parkway.

As a result of these impacts that cannot be mitigated to a less than significant level, adoption of a Statement of Overriding Considerations is required prior to approving the project. A Statement of Overriding Considerations is the process through which decision makers balance the economic, legal, social, and technological or other benefits of the proposed project against its unavoidable environmental impacts.

Economic Development

The City utilized the services of AECOM to prepare an economic and fiscal analysis of the proposed project and to compare its impacts again those of an industrial prototype that could be built pursuant to the M-1 zoning district standards on the project site. The analysis reviewed key areas including residential, industrial, and retail market assessments; development feasibility; and economic and fiscal impacts of the project.

AECOM's analysis reveals positive economic and fiscal impacts from either the proposed development or the industrial prototype due to the project site's location in a high-value, jobs-rich area surrounded by employment centers and commercial developments. The report's conclusions about the proposed project and the industrial prototype are illustrated in Table 6.

Table 6: Key Findings of the Proposed Project and Industrial Prototype Comparison of Impacts

Topic	Proposed Project	Industrial Prototype
Residential Market Assessment	The proposed quantity of residential units could be absorbed with low vacancy and high rents	N/A – Residential not permitted by current M-1 zoning designation
Industrial Market Assessment	N/A – The proposed project does not contain industrial buildings or uses	The industrial prototype (up to 320,000-square foot light industrial office/industrial building) could be absorbed into the broader market, as the expected incremental demand for new industrial square footage by 2026 is 2.2 million square feet
Retail Market Assessment	The proposed 80,000 square feet of leasable commercial square footage could be absorbed by the market area due to the buildout anticipated within a two-mile market area	N/A – The industrial prototype does not contain a significant commercial component as commercial uses are limited by the M-1 zoning designation
Development Feasibility/Residual Land Value (RLV)	$65 million ($100/square foot of land)	$17 million ($26/square foot of land)
Economic Impact	$498 million in one-time construction impacts, $58 million in annual economic	$76 million in one-time construction impacts, $153 million in annual economic impacts,

Topic	Proposed Project	Industrial Prototype
	impacts, and 1,200 jobs, of which 349 would be in the City	and 1,400 jobs, of which 638 would be in the City
Fiscal Impact	Annual net fiscal surplus of $1 million ($2.5 million revenue but $1.5 million expenditures), a 40 percent positive ratio	Annual net fiscal surplus of $525,000 ($710,000 revenue but $185,000 expenditures), a 74 percent positive ratio

Public Notification and Strategic Plan Alignment

In conformance with all applicable SAMC requirements and City policies, a Sunshine Ordinance community meeting was held for the project on April 15, 2019 from 6:00 p.m. to 7:30 p.m. Notices were sent to property owners and tenants within 500 feet of all edges of the subject property. Attendees included the project applicant and architects, City staff, and two members of the public representing nearby properties and businesses. Questions posed by the two members of the public centered on the development's characteristics and timing.

A Planning Commission work-study session was held on February 10, 2020 where staff presented proposed project and described the Draft EIR. Members of the Planning Commission provided feedback and posed questions on the overall development, mixture of land uses, options to satisfy affordable housing requirements, onsite parking, and a parking management plan. Following the work-study session, the applicant revised the project to increase the number of onsite parking spaces and prepared the parking management plan.

Notification of the May 11, 2020 Planning Commission public hearing was mailed to all property owners, occupants, and other interested parties within 500 feet of the project site in accordance with SAMC requirements. Newspaper posting was published in the Orange County Register in accordance with SAMC requirements.

Strategic Plan Alignment

Approval of this item supports the City's efforts to meet Goal No. 3 Economic Development, Objective No. 2 (create new opportunities for business/job growth and encourage private development through new General Plan and Zoning Ordinance policies), and Goal No. 5 Community Health, Livability, Engagement & Sustainability, Objective No. 3 (facilitate diverse housing opportunities and support efforts to preserve and improve the livability of Santa Ana neighborhoods).

Conclusion

Based on the analysis provided within this report, staff recommends that the Planning Commission recommend that the City Council adopt: a resolution certifying Final Environmental Impact Report No. 2020-01 (SCH No. 2019080011), including adoption of environmental findings of fact pursuant to the California Environmental Quality Act, adoption of a Statement of Overriding Considerations, and adoption of a Mitigation Monitoring and Reporting Program; a resolution approving General Plan Amendment (GPA) No. 2020-02; and an ordinance approving Amendment Application (AA) No. 2020-01 to establish Specific Development No. 96.

Ali Pezeshkpour, AICP
Senior Planner

Jerry C. Guevara
Assistant Planner I

AP/JG:sb

S:\Planning Commission\2020\05-11-20\The Bowery\GPA-2020-2 AA-2020-1 EIR-2020-1 The Bowery 05112020.pc

Exhibits:

1. EIR Resolution, including Findings of Fact and Statement of Overriding Considerations, MMRP, and Final EIR Link
2. General Plan Amendment Resolution & Exhibits
3. Amendment Application (Zone Change) Ordinance & Exhibits, Including Specific Development Zone Document (SD-96)
4. Vicinity Map
5. Site Photos
6. Final EIR Link
7. Overall Site/Conceptual Landscape Plan
8. Project Views (Renderings)
9. Sunshine Ordinance Community Meeting Materials
10. Parking Study and Management Plan
11. Economic and Fiscal Analysis

EXHIBIT 1

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RESOLUTION NO. 2020-xx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA (1) ADOPTING ENVIRONMENTAL FINDINGS OF FACT AND A STATEMENT OF OVERRIDING CONSIDERATIONS FOR THE PROPOSED PROJECT PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, (2) CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT (STATE CLEARINGHOUSE NO. 2019080011), (3) ADOPTING THE MITIGATION MONITORING AND REPORTING PROGRAM, AND (4) APPROVING THE PROPOSED MIXED-USE COMMERCIAL AND RESIDENTIAL DEVELOPMENT KNOWN AS THE BOWERY LOCATED WITHIN THE CITY OF SANTA ANA AT 2300, 2310, AND 2320 SOUTH REDHILL AVENUE

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

WHEREAS, Jeremy Ogulnick, representing Arrimus Capital ("Applicant"), seeks to develop The Bowery Mixed-Use Commercial and Residential Project ("proposed Project"), on a 14.69-acre site at 2300, 2310, and 2320 South Redhill Avenue in Santa Ana, California ("Project Site"); and

WHEREAS, during the City's entitlement and environmental review process, and in response to comments and concerns raised by the City and public, the Applicant has proposed the subject mixed-use Project; and

WHEREAS, the Project as currently proposed entails, among other things, (1) demolition of the existing three (3) structures on the Project Site; (2) redevelopment of the Project Site with a commercial and residential mixed-use development consisting of up to 80,000 square feet leasable commercial area, 1,100 residential units, 2,600 onsite parking spaces, and onsite landscaping and amenities; (3) approval of General Plan Amendment (GPA) No. 2020-02, which would change the Project Site's existing land use designation of Professional & Administration Office (PAO) to District Center (DC); and (4) approval of Amendment Application (AA) No. 2020-01, which would change the zoning of the Project Site from Light Industrial (M-1) to Specific Development No. 96 (SD-96) designation; and

WHEREAS, the proposed Project has been submitted and requires review and certification of an Environmental Impact Report (the "EIR") (State Clearinghouse/SCH No. 2019080011) (Environmental Impact Report No. 2020-01) and the GPA and AA applications listed above; and

WHEREAS, the Project Site is located at the southwest corner of Redhill and Warner Avenue, at a gateway intersection into the City of Santa Ana and a location across major mixed-use development planning areas in the cities of Tustin and Irvine; and

WHEREAS, pursuant to Section 21067 of the Public Resources Code, and Section 15367 of the State CEQA Guidelines (California Code of Regulations, Title 14, § 15000 et seq.), the City of Santa Ana is the lead agency for the proposed Project; and

WHEREAS, in accordance with State CEQA Guidelines Section 15063(a), the City as Lead Agency determined that an EIR was clearly required for the project, and therefore did not prepare an Initial Study; and

WHEREAS, the City determined that an EIR should be prepared to evaluate the proposed Project's potential to have a significant effect on the environment in all of the following areas as required by Appendix G of the CEQA Guidelines Appendices: Aesthetics; Air Quality; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population and Housing; Public Services and Recreation; Transportation; Tribal Cultural Resources; Utilities and Service Systems; and Project Alternatives; and

WHEREAS, in accordance with State CEQA Guidelines Section 15082, on July 26, 2019, the City sent to the Office of Planning and Research and each responsible and trustee agency a Notice of Preparation ("NOP") - which was also published in the Orange County Register, a newspaper of general circulation - stating that an Environmental Impact Report (SCH No. 2019080011) would be prepared; and

WHEREAS, pursuant to Public Resources Code Section 21083.9 and State CEQA Guidelines Sections 15082(c) and 15083, the City held a duly noticed Scoping Meeting on August 15, 2019, to solicit comments on the scope of the environmental review of the proposed Project; and

WHEREAS, ten (10) comment letters were received in response to the NOP; and

WHEREAS, a Draft Environmental Impact Report ("Draft EIR") was prepared for the proposed Project, addressing comments received in response to the NOP and evaluating the proposed Project's potentially significant environmental impacts; and

WHEREAS, the Draft EIR identifies five significant and unavoidable impact associated with this project, which pertain to Air Quality, Greenhouse Gas Emissions, and Transportation. Air Quality impacts stem from emissions from operation of the project exceeding SCAQMD's threshold for volatile organic compounds (VOCs) that would be derived from consumer products and vehicular activity that neither the Applicant nor the City have the ability to reduce. Greenhouse Gas Emissions impacts stem from approximately 60 percent of the GHG emissions being generated by vehicle trips. Neither the Applicant nor the City can substantively or materially reduce the vehicular-source GHG emissions. Lastly, Transportation impacts stem from the

project's requirement to pay fair share funds to improve right-turn overlap phasing at the intersections of Grand and Warner Avenues and Redhill Avenue and Alton Parkway, and to construct right-turn overlap phasing and prohibit southbound U-turns at the intersection of Redhill Avenue and Barranca Parkway; and

WHEREAS, the Draft EIR further determines that mitigation measures are required to address impacts to Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Transportation, and Tribal Cultural Resources; and

WHEREAS, in accordance with State CEQA Guidelines Section 15085, a Notice of Completion was prepared and filed with the Office of Planning and Research on January 3, 2020; and

WHEREAS, as required by State CEQA Guidelines Section 15087(a), the City provided a Notice of Availability of the Draft EIR to the public - and published the Notice of Availability in the Orange County Register - at the same time that the City sent a Notice of Completion to the Office of Planning and Research on January 3, 2020; and

WHEREAS, during the public comment period, copies of the Draft EIR and technical appendices were available for review and inspection at City Hall (20 Civic Center Plaza), on the City's website, and at the Santa Ana Public Library (26 Civic Center Plaza); and

WHEREAS, during the public comment period, a Planning Commission work-study session was held on February 10, 2020 where staff presented proposed project and described the Draft EIR; and

WHEREAS, consistent with State CEQA Guidelines Section 15087(e), the Draft EIR was circulated for a 45-day review period, from January 3, 2020 to February 18, 2020; and

WHEREAS, during the 45-day public comment period, the City consulted with and requested comments from all responsible and trustee agencies, other regulatory agencies, and others pursuant to State CEQA Guidelines Section 15086; and

WHEREAS, the City has complied with CEQA environmental review requirements; and

WHEREAS, pursuant to Public Resources Code Section 21092.5, on April 27, 2020, the City provided copies of its responses to commenting public agencies and interested organizations and parties more than ten (10) days prior to the City's consideration of the Final EIR; and

WHEREAS, on April 27, 2020, the City released the Final EIR ("Final EIR"), attached hereto as Exhibit "C", which consists of the Draft EIR, all technical appendices prepared in support of the Draft EIR, all written comment letters received on the Draft EIR, written responses to all written comment letters received and verbal comments

received on the Draft EIR, revisions to the Draft EIR and technical appendices, and the Mitigation Monitoring and Reporting Program; and

WHEREAS, on May 11, 2020, the Planning Commission conducted a duly noticed public hearing to consider the EIR and the GPA, and AA applications described above. After hearing all relevant testimony from staff, the public and the City's consultant team, the Planning Commission voted to recommend that the City Council certify the EIR and adopt the findings, the statement of overriding considerations and the mitigation monitoring and reporting program and approve the Project; and

WHEREAS, on May 21, 2020, the City gave public notice of a City Council public hearing for consideration of Environmental Impact Report No. 2020-01 (State Clearinghouse No. 2019080011) by advertising in the Orange County Register, a newspaper of general circulation, and by mailing to owners of property and residents within 500 feet of the Project; and

WHEREAS, on June 2, 2020, the City Council conducted a duly noticed public hearing to consider the EIR, General Plan Amendment No. 2020-02, and Amendment Application No. 2020-01 and at which hearing members of the public were afforded an opportunity to comment upon Environmental Impact Report No. 2020-01. After hearing all relevant testimony from staff, the public and the City's consultant team, the City Council voted to certify the EIR, adopt the findings, the statement of overriding considerations and the mitigation monitoring and reporting program and approve the Project; and

WHEREAS, the "EIR" consists of the Final EIR, and all attachments and appendices to the Final EIR, as well as the Draft EIR and its attachments and appendices (as modified by the Final EIR); and

WHEREAS, all potentially significant adverse environmental impacts were sufficiently analyzed in the EIR; and

WHEREAS, as contained herein, the City Council has endeavored in good faith to set forth the basis for its decision and recommendations on the Project; and

WHEREAS, all of the requirements of the Public Resources Code and the State CEQA Guidelines have been satisfied by the City in connection with the preparation of the EIR, which is sufficiently detailed so that all of the potentially significant environmental effects of the Project have been adequately evaluated; and

WHEREAS, all of the findings and conclusions made by the City Council pursuant to this Resolution are based upon the oral and written evidence presented to it as a whole and the entirety of the administrative record for the Project, which are incorporated herein by this reference, and not based solely on the information provided in this Resolution; and

WHEREAS, the City Council finds that the Project's significant environmental impacts that cannot be mitigated to a less than significant level even with incorporation

of all feasible mitigation measures, as identified in the EIR, and described in Section 4 of the CEQA Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, the City Council finds that the Project’s environmental impacts that are less than significant with the incorporation of mitigation measures, as identified in the EIR, are described in Section 3 of the Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, the City Council finds that environmental impacts that are identified in the EIR as less than significant and do not require mitigation are described in Section 2 of the Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, the cumulative impacts of the Project identified in the EIR are described in Section 5 of the Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, the potential significant and irreversible environmental changes that would result from the proposed Project identified in the EIR and set forth herein, are described in Section 5 of the Findings of Fact, attached hereto as “Exhibit A”; and

WHEREAS, the existence of any growth-inducing impacts resulting from the proposed Project identified in the EIR and set forth herein, are described in Section 5 of the Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, alternatives to the proposed Project that might further reduce the proposed Project’s environmental impacts are described in Section 5 of the Findings of Fact, attached hereto as Exhibit “A”; and

WHEREAS, prior to taking action, the City Council has heard, been presented with, reviewed and considered all of the information and data in the administrative record, including but not limited to the EIR, and all oral and written evidence presented to it during all meetings and hearings; and

WHEREAS, the EIR reflects the independent judgment of the City Council and is deemed adequate for purposes of making decisions on the merits of the Project; and

WHEREAS, no comments made in the public hearing conducted by the City Council and no additional information submitted to the City have produced substantial new information requiring recirculation of the EIR or additional environmental review of the Project under Public Resources Code section 21092.1 and State CEQA Guidelines Section 15088.5; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred; and

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA ANA DOES RESOLVE, DETERMINE, FIND, AND ORDER AS FOLLOWS:

1. The City Council hereby finds that it has been presented with the EIR, which it has reviewed and considered, and further finds that the EIR is an accurate

and objective statement that has been completed in full compliance with CEQA and the State CEQA Guidelines, and that the EIR reflects the independent judgment and analysis of the City.

2. The City Council declares that no evidence of new significant impacts or any new information of "substantial importance", as defined by State CEQA Guidelines Section 15088.5, has been received by the City after circulation of the Draft EIR that would require recirculation of the EIR.

NOW THEREFORE, THE CITY COUNCIL HEREBY:

1. Certifies the EIR based on the entirety of the record of proceedings.

2. Adopts the Findings of Fact and Statement of Overriding Considerations, attached hereto and incorporated herein as Exhibit "A", after balancing the significant and unavoidable aesthetic impacts of the Project against the benefits of the Project

3. Adopts the Mitigation Monitoring and Reporting Program attached hereto and incorporated herein as Exhibit "B", consistent with Public Resources Code section 21081.6; makes implementation of the Mitigation Measures contained in the Mitigation Monitoring and Reporting Program a condition of approval of the Project; and find that in the event of any inconsistencies between the Mitigation Measures set forth herein and the Mitigation Monitoring and Reporting Program, the Mitigation Monitoring and Reporting Program shall control.

4. Directs City staff to cause a Notice of Determination to be filed and posted with the County of Orange Registrar-Recorder/County Clerk and the State Clearinghouse within five (5) working days of the City Council's final Project approval.

Section 2. INDEMNIFICATION. The Applicant has agreed to and shall indemnify, protect, defend and hold the City and/or any of its officials, officers, employees, agents, departments, agencies, authorized volunteers, and instrumentalities thereof, harmless from any and all claims, demands, lawsuits, writs of mandamus, and other proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to arbitrations, mediations, and such other procedures), judgments, orders, and decisions (collectively "Actions"), brought against the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, any action of, or any permit or approval issued by the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City) for or concerning the Project, whether such Actions are brought under the Ralph M. Brown Act, California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure sections

1085 or 1094.5, or any other federal, state or local constitution, statute, law, ordinance, charter, rule, regulation, or any decision of a court of competent jurisdiction. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that Applicant shall reimburse the City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the Applicant of any Action brought and City shall cooperate with Applicant in the defense of the Action.

Section 3. EXECUTION OF RESOLUTION. The Mayor shall sign this Resolution and the Clerk of the Council shall attest and certify to the adoption thereof.

ADOPTED this ___ day of_____, 2020.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho
City Attorney

By:_____
Lisa Storck
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, DAISY GOMEZ, Clerk of the Council, do hereby attest to and certify the attached Resolution No. 2020-xx to be the original resolution adopted by the City Council of the City of Santa Ana on _____, 2020.

Date: _____

_____
Daisy Gomez
Clerk of the Council
City of Santa Ana

CEQA FINDINGS OF FACT
FOR THE BOWERY MIXED-USE PROJECT
SANTA ANA, CALIFORNIA
STATE CLEARINGHOUSE NO. 2019080011
CITY OF SANTA ANA DP NO. 2019-06

Public Resources Code section 21002 states that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" Section 21002 further states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which would avoid or substantially lessen such significant effects."

Agencies demonstrate compliance with section 21002's mandate by adopting findings before approving projects for which EIRs are required. (See Pub. Resources Code, § 21081, subd. (a); State CEQA Guidelines § 15091, subd. (a).) The approving agency must make written findings for each significant environmental effect identified in an EIR for a proposed project and must reach at least one of three permissible conclusions.

- The first possible finding is that "[c]hanges or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect as identified in the final EIR." (State CEQA Guidelines § 15091, subd. (a)(1).)
- The second permissible finding is that "[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding" and that "[s]uch changes have been adopted by such other agency or can and should be adopted by such other agency." (State CEQA Guidelines § 15091, subd. (a)(2).)
- The third potential conclusion is that "[s]pecific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR." (State CEQA Guidelines § 15091, subd. (a)(3).)

Agencies must not adopt a project with significant environmental impacts if feasible alternatives or mitigation measures would substantially lessen the significant impacts. Public Resources Code section 21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors." State CEQA Guidelines section 15364 adds "legal" considerations as another indicium of feasibility (See also *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 565). Project objectives also inform the determination of "feasibility." (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417.) Further, "'feasibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (*Id.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.) An agency need not, however, adopt *infeasible* mitigation measures or alternatives (State CEQA Guidelines § 15091, subds. (a), (b)). Further, environmental impacts that are less than significant do not require the imposition of mitigation measures (*Leonoff v. Monterey County Board of Supervisors* (1990) 222 Cal.App.3d 1337, 1347).

Notably, section 21002 requires an agency to "substantially lessen or avoid" significant adverse environmental impacts. Thus, mitigation measures that "substantially lessen" significant environmental impacts, even if not completely avoided, satisfy section 21002's mandate. (*Laurel Hills Homeowners Assn. v. City Council* (1978) 83 Cal.App.3d 515, 521 ("CEQA does not mandate the choice of the environmentally best feasible project if through the imposition of feasible mitigation measures alone the appropriate public agency has reduced environmental damage from a project to an acceptable level"); *Las Virgenes Homeowners Federation, Inc. v. County of Los Angeles* (1986) 177 Cal.App.3d 300, 309 ("[t]here is no requirement that adverse impacts of a project be avoided completely or reduced to a level of insignificance . . . if such would render the Project unfeasible").

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the Project lies with some other agency. (State CEQA Guidelines § 15091, subds. (a), (b). The California Supreme Court has stated, "[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced." (*Citizens of Goleta Valley v. Board of Supervisors, supra,* 52 Cal.3d at p. 576).

The City of Santa Ana has determined that based on all the evidence presented, including, but not limited to, the Final EIR, written and oral testimony given at meetings and hearings on the Project, and submission of testimony from the public, organizations and regulatory agencies, the following environmental impacts associated with the Project are:

(1) less than significant and do not require mitigation;

(2) potentially significant and each of these impacts would be avoided or reduced to a level of insignificance through the identified mitigation measures; or

(3) significant and cannot be fully mitigated to a level of less than significant but will be substantially lessened to the extent feasible by the identified mitigation measures.

SECTION I

ENVIRONMENTAL REVIEW AND PUBLIC PARTICIPATION

The Final EIR includes the Draft Environmental Impact Report (EIR) dated January 2020, written comments on the Draft EIR that were received during the public review period, written responses to those comments and changes to the Draft EIR, and the Final EIR Errata making minor corrections and revisions to the Final EIR. In conformance with CEQA and the State CEQA Guidelines, the City of Santa Ana conducted an extensive environmental review of the Bowery Mixed-Use Project:

- The City of Santa Ana concluded that an EIR should be prepared, and the Notice of Preparation (NOP) was released for a 30-day public review period from July 26, 2019 (Modified on August 5, 2019), through August 29, 2019. The NOP was posted at the Orange County Clerk's Office on July 26, 2019 and August 5, 2019. The notice was published in the Orange County Reporter, a newspaper of general circulation. Under CEQA, a Lead Agency may proceed directly with preparation of the EIR without preparation of an Initial Study if it is clear that an EIR will be required (State CEQA Guidelines Section 15060[d]). The City of Santa Ana has made such a determination for this Project and has not prepared an Initial Study.
- Completion of a scoping process, in which the public was invited by the City of Santa Ana to participate. The scoping meeting for the EIR was held on August 15, 2019 at 6:00 p.m. at the Embassy Suites located at 1325 East Dyer Road in Santa Ana. The notice of a public scoping meeting was included in the NOP distributed on July 26, 2019 and August 5, 2019.
- Preparation of a Draft EIR by the City of Santa Ana, which was made available for a 46-day public review period (January 3, 2020 through February 18, 2020). The Notice of Availability (NOA) for the Draft EIR was sent to all persons, agencies and organizations on the interest list interested persons, sent to the State Clearinghouse in Sacramento for distribution to public agencies, and published in the January 3, 2020 Orange County Reporter. The NOA was posted at the Orange County Clerk's Office on January 3, 2020. Copies of the Draft EIR were made available for public review at the City of Santa Ana, Planning Division Counter, located at 20 Civic Center Plaza, M-20, Santa Ana, CA 92701, and the City of Santa Ana Public Library, located at 26 Civic Center Plaza, Santa Ana, CA 92701. The Draft EIR was also available for review and download via the following City website location: https://www.santa-ana.org/pb/planning-division/major-planning-projects-and-documents/bowery.
- The Final EIR contains comments on the Draft EIR, responses to those comments, revisions to the Draft EIR, if any, and appended documents. The Final EIR was released for a 10-day agency review period prior to certification of the Final EIR.
- After considering the EIR and in conjunction with making these findings, the City of Santa Ana hereby finds that pursuant to Section 15092 of the CEQA Guidelines that approval of the Project will result in significant effects on the environment, however, the significant effects will be eliminated or substantially lessened where feasible, and has determined that remaining significant effects are found to be acceptable under Section 15093.
- The Mitigation Monitoring and Reporting Program is hereby adopted to ensure implementation of feasible mitigation measures identified in the EIR. The City of Santa Ana

finds that these mitigation measures are fully enforceable conditions on the Project and shall be binding upon the City and affected parties.

- The City of Santa Ana finds that the Project is in the public interest and is necessary for the public health, safety, and welfare.
- The City of Santa Ana hereby certifies the Final EIR in accordance with the requirements of CEQA.
- Pursuant to CEQA Guidelines Section 15095, staff is directed as follows: a) copy of the Final EIR and CEQA Findings of Fact shall be retained in the Project files; b) copy of the Final EIR and CEQA Findings of Fact shall be provided to the Project applicant who is responsible for providing copy of same to all CEQA "responsible" agencies.

SECTION II

RESOLUTION REGARDING ENVIRONMENTAL IMPACTS NOT REQUIRING MITIGATION

Section 15091 of the State CEQA Guidelines does not require specific findings to address environmental effects that an EIR identifies as "less than significant" where no mitigation is required. These findings will nevertheless fully account for all such effects identified in the Draft EIR in this Section II. Thus, the City hereby finds that the following potential environmental impacts of the Project are less than significant and do not require the imposition of mitigation measures:

A. Aesthetics

Impact Finding: The Project would not have a substantial adverse effect on a scenic vista (Draft EIR at p. 5.1-23).

Facts in Support of Findings: The Project site and surrounding areas are either urbanized or planned for urbanization and do not contain any sensitive scenic vistas. The General Plan Scenic Corridors Element does not identify any scenic resources or vistas at or adjacent to the Project site. The nearest feature identified by the General Plan is Edinger Avenue, a "Secondary Street Corridor", which is approximately 1 mile north of the site. Due to the flat topography and distance, Edinger Avenue it is not visible from the Project site. Because there are no scenic vistas within the viewshed of the Project site, no impacts related to the scenic vistas would occur from implementation of the proposed Project.

Impact Finding: The Project would not substantially damage scenic resources, including, trees, rock outcroppings, and historic buildings within a state scenic highway (Draft EIR at p. 5.1-23).

Facts in Support of Findings: There are no officially designated state scenic highways in the vicinity of the proposed Project (Caltrans 2019). The only officially designated scenic highway within Orange County is a portion of SR-91 that is located between SR-55 to east of the Anaheim city limit (Caltrans 2019), which is not in the vicinity of the Project site. Likewise, there are no County-designated scenic highways that run through the City of Santa Ana. Further, the proposed Project site is flat and surrounded by an urban built environment, and there are no other scenic resources, including trees, rock outcroppings, or historic buildings within the viewshed of the Project. Therefore, no impacts related to scenic resources within a state scenic highway would occur.

Impact Finding: The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings and would not conflict with applicable zoning and other regulations governing scenic quality (Draft EIR at p. 5.1-24).

Facts in Support of Findings:

Construction

Construction of the proposed Project is anticipated to last approximately 27-months. Views of demolition and construction activities would exist from adjacent public view locations along Red Hill Avenue and Warner Avenue. During Project demolition and construction, various activities would alter the character of the Project site and its surroundings. Graded surfaces, demolition and construction debris, construction equipment, and truck traffic would be visible. Soil would also be stockpiled and equipment for grading activities would be staged at various locations throughout the site. Construction-related visual impacts would not be constant over the 27-month construction

period (as different construction phases would involve varying activities occurring at different times). Upon completion of construction, these short-term visual impacts would cease. Because the views of construction activities would be temporary and changing as construction progresses, impacts related to the visual degradation of the existing character or quality of the site would be temporary and less than significant.

Operations

Implementation of the Project would result in a strong visual contrast from existing conditions but would not degrade the character or quality of the site, which currently has limited visual character or interest. The character of the site would change from setback urban views of industrial uses to a residential, urban mixed-use village that would have a unifying urban modern architectural theme. While implementation of the Project would alter the visual character of the site and surroundings, it is not anticipated that a substantial degradation of the visual character or quality would occur.

In addition, the proposed Project would be visually compatible with the existing and future built environment in the Project area that includes various high-density, urban-style boxy large buildings and ornamental landscaping. The areas in the viewshed of the Project site include urban structures such as, Naval Air Station airplane hangars, two and four-story office structures, and a 5-story hotel. The undeveloped chained linked areas across from the Project site in the Tustin Legacy Specific Plan are planned for employment buildings that would likely be modern in architecture and are permitted to be 6-stories and 70-feet in height with a 40-foot setback from Red Hill Avenue. Although the 94 foot high structure would be 24-feet higher than development within the Tustin Legacy, and four stories taller than adjacent structures on Red Hill and across Warner Avenue from the site, the modern urban and dense character of the proposed Project would be similar to the existing and planned uses, which generate similar views. As a result, the proposed Project would not substantially degrade the existing visual character of the site or surrounding area, and impacts would be less than significant.

Regarding a potential conflict with applicable zoning and other regulations governing scenic quality, the Project includes a zone change that would change the existing zoning designation change from M-1 (Light Industrial) to a Specific Development (SD) to implement the proposed mixed-use Project. As described in the City's Zoning Code Section 41-593.1, the purpose of the SD zone is to promote the public health, safety, and general welfare by the use of good design principles, maintaining an orderly and harmonious appearance, and encouraging excellence of property development. When development projects are proposed within the SD zone, they are required (per Zoning Code Section 41-593.4) to submit development plans for architectural review to ensure that buildings, structures, and grounds would be in keeping with the neighborhood and would not be detrimental to the harmonious development of the City or impair the desirability of investment or occupation in the neighborhood.

The proposed Project would create an attractive, cohesive mixed-use community through the use of contemporary architectural materials and landscaping throughout the Project site. As required by the Zoning Code, the proposed Project's development plans would be reviewed by the City to ensure consistency with development standards. Thus, the proposed Project would not conflict with applicable zoning or other regulations governing scenic quality. Overall, impacts would be less than significant.

Impact Finding: The Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (Draft EIR at p. 5.1-4).

Facts in Support of Findings: The proposed Project would include the provision of nighttime lighting for security purposes around all of the buildings and parking structures. Implementation of the proposed Project would result in a higher intensity development on the site than currently exists, which would contribute additional sources to the overall ambient nighttime lighting conditions. However, all outdoor lighting would be hooded, appropriately angled away from adjacent land uses, and would comply with the Santa Ana Municipal Code Section 41-611.1 and Section 41-1304 that provides specifications for shielding lighting away from adjacent uses and intensity of security lighting. Because the Project area is within an urban area with various sources of existing nighttime lighting, and the Project would be required to comply with the City's lighting regulations that would be verified by the City's Planning and Building Agency during the permitting process, the lighting increase in light that would be generated by the Project would not adversely affect day or nighttime views in the area. Overall, lighting impacts would be less than significant.

Reflective light (glare) can be caused by sunlight or artificial light reflecting from finished surfaces such as window glass or other reflective materials. Generally, darker or mirrored glass would have a higher visible light reflectance than clear glass. Buildings constructed of highly reflective materials from which the sun reflects at a low angle can cause adverse glare. However, the proposed Project would not use highly reflective surfaces, or glass sided buildings. Although the residential and commercial buildings would contain windows, the windows would be separated by stucco and architectural treatments, which would limit the potential of glare. In addition, as described previously, onsite lighting would be angled down and shielded, which would avoid the potential on onsite lighting to generate glare. In addition, the majority of vehicle parking would be located within parking structures and the Project does not contain large surface parking lots that could generate glare from numerous windshields aligned in one area. Therefore, the Project would not generate substantial sources of glare, and impacts would be less than significant.

B. Air Quality

Impact Finding: Construction of the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (Draft EIR at p. 5.2-15).

Facts in Support of Findings: Construction activities associated with the proposed Project would result in short-term and temporary emissions of CO, VOCs, NOx, SOx, PM_{10}, and $PM_{2.5}$ lasting approximately 27-months. The maximum daily construction emissions were estimated using CalEEMod; and the modeling includes compliance with SCAQMD Rules 403, 431.2, 1113, and 1186 / 1186.1, which are requirements that would reduce air contaminants during construction. The Draft EIR Table 5.2-7, on page 5.2-16, provides the maximum daily emissions of criteria air pollutants from construction of the proposed Project and shows that SCAQMD thresholds would not be exceeded. Thus, impacts related to construction emissions would be less than significant with implementation of required SCAQMD Rules listed below.

Plans, Program and Policies:
PPP AQ-1: Rule 403. The following measures shall be incorporated into construction plans and specifications as implementation of Rule 403:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather.

Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.

- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.

PPP AQ-2: Rule 1113. The following measure shall be incorporated into construction plans and specifications as implementation of Rule 1113. The Project shall only use "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113.

PPP AQ-3: Rule 445. The following measure shall be incorporated into construction plans and specifications as implementation of Rule 445. Wood burning stoves and fireplaces shall not be included or used in the new development.

Impact Finding: The Project would not expose sensitive receptors to substantial pollutant concentrations (Draft EIR at p. 5.2.17).

Facts in Support of Findings:
Localized Construction Air Quality. As shown in the Draft EIR in Table 5.2-9, on page 5.2-17, emissions during peak construction activity of the Project would not exceed the SCAQMD's localized significance threshold for any of the pollutants. Therefore, impacts related to localized significant emissions from construction activity would be less than significant.

CO Hotspots. An adverse CO concentration, known as a "hot spot", can occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. With operations of the proposed Project and cumulative projects, the traffic volume (described in Draft EIR at Table 5.2-10, on page 5.2-18) would not be high enough to generate a CO "hot spot" per the 2003 AQMP hot spot study. Therefore, impacts related to CO "hot spots" from operation of the proposed Project would be less than significant.

Impact Finding: The Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (Draft EIR at p. 5.2.18).

Facts in Support of Findings: The proposed Project would not emit other emissions, such as those generating objectionable odors, that would affect a substantial number of people. The type of facilities that are considered to result in other emissions, such as objectionable odors, include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

The proposed Project would implement retail and restaurant commercial and residential development within the Project area. These land uses do not involve the types of uses that would emit objectionable odors affecting a substantial number of people.

During construction, emissions from construction equipment, architectural coatings, and paving activities may generate odors. However, these odors would be temporary, intermittent in nature, and would not affect a substantial number of people. The noxious odors would be confined to the immediate vicinity of the construction equipment. Also, the short-term construction-related odors would cease upon the drying or hardening of the odor-producing materials.

In addition, all Project-generated solid waste would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations and would not generate objectionable odors. Therefore, impacts associated with other operation- and construction-generated emissions, such as odors, would be less than significant.

C. Cultural Resources

Impact Finding: The Project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5 (Draft EIR at p. 5.3-7).

Facts in Support of Findings: The Project site does not contain any historic resources. As described in the Phase I Environmental Site Assessment that was prepared for the Project site (Phase I 2018) (Appendix D of the Draft EIR), aerial photographs between 1938 and 1977 show the site being used for agriculture or being vacant. The existing industrial buildings was constructed in the early 1980s, which are not more than 39 years old and are not historic resources. The industrial buildings were previously used by Ricoh Electronics Inc. for imaging and electronics manufacturing. No historically important activities previously occurred within the existing buildings. Overall, the site does not include any historic resources and implementation of the proposed Project would not impact a historic resource.

In addition, the Project site is not adjacent to any historic structures. Areas surrounding the site consist of modern office buildings, business park buildings, modern public service facilities, and vacant land that is proposed for new development. Therefore, redevelopment of the Project site would not result in an indirect effect to any off-site historic resources. Overall, no impacts related to historic resources would occur from implementation of the proposed Project.

Impact Finding: The Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. (Draft EIR at p. 5.3-7).

Facts in Support of Findings: The site has a long history of ground disturbance from previous agricultural uses and development, as detailed in the Geotechnical Report (Appendix C of the Draft EIR) describes that artificial fill was observed in field explorations up to 7.5 feet below existing grade and previous excavation and recompaction ranged from 5 feet to 13 feet for development of the existing buildings and removal of underground storage tanks. It is likely that the site disturbance included the undeveloped portion of the site at the corner of Red Hill and Warner Avenue. The extensive previous excavation, recompaction, and fill soils onsite have limited the potential of the site to contain archaeological resources.

Also, as described in the Draft EIR Section 3.0, *Project Description*, the proposed Project would excavate onsite soils to a minimum of 5 feet below the bottom of the building foundations and 5 feet beyond the building perimeters. The soils would be reconditioned and recompacted as engineered fill to support the proposed building structures. The depth of the excavation is within the previously disturbed soil depths, which further reduces the potential of the Project to result in impacts related to archaeological resources.

Overall, due to the extent and depth of previous ground disturbances throughout the site, the potential for archaeological resources is limited. Therefore, the Project would not cause a substantial adverse change in the significance of an archaeological resources; and impacts would be less than significant.

Impact Finding: The Project would not disturb any human remains, including those interred outside of formal cemeteries (Draft EIR at p. 5.3-8).

Facts in Support of Findings: The Project site has been extensively disturbed and has not been previously used as a cemetery. Thus, impacts related to human remains are less than significant. In the unanticipated event that human remains are found during project construction activities compliance with California Health and Safety Code Section 7050.5 would ensure that human remains are treated with dignity and as specified by law.

As specified by California Health and Safety Code Section 7050.5, if human remains are found on the Project site, the County Coroner's office shall be immediately notified and no further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will make a determination as to the Most Likely Descendent. Compliance with the existing California Health and Safety Code regulations, would ensure impacts related to potential disturbance of human remains are less than significant.

D. Energy

Impact Finding: The Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (Draft EIR at p. 5.4-5).

Facts in Support of Findings:

Construction

During construction of the proposed Project, energy would be consumed in three general forms, petroleum-based fuels, electricity, and energy used in the production of construction materials. Construction activities related to the proposed mixed-use Project would not be expected to result in demand for fuel greater on a per-unit-of-development basis than other development projects in Southern California. Construction would occur over a 27-month period and the demand for construction-related electricity and fuels would be limited to those time frames.

Draft EIR pages 5.4-6 through 5.4-7 detail that construction of the proposed Project is estimated to result in the need for 1,674,604 kWh of electricity, approximately 123,957 gallons of diesel fuel. Construction workers would use approximately 291,025 gallons of fuel to travel to and from the Project area. Approximately 25,976 gallons of fuel would be used by medium high duty and 160,174 gallons of fuel would be used for hauling by heavy-duty trucks during construction of the proposed Project.

Construction contractors are required to demonstrate compliance with applicable California Air Resources Board (CARB) regulations and compliance with existing CARB idling restrictions and the use of newer engines and equipment would reduce fuel combustion and energy consumption on the Project site. Overall, construction activities would require limited energy consumption and would comply with all existing regulations. Thus, impacts related to construction energy usage would be less than significant.

Operation

Once operational, the mixed-use Project would generate demand for electricity, natural gas, as well as gasoline for motor vehicle trips. Operational use of energy includes the heating, cooling, and lighting of buildings, water heating, operation of electrical systems and plug-in appliances within buildings, parking lot and outdoor lighting, and the transport of electricity, natural gas, and water to the areas where they would be consumed.

Draft EIR pages 5.4-8 and 5.4-9 detail that operation of the proposed Project is estimated to result in the annual use of 1,236,920 gallons of fuel. In addition, the proposed Project would use approximately 29,255,440 thousand British thermal units (kBTU) per year of natural gas, and approximately 12,721,140 kilowatt-hour (kWh) per year of electricity.

The proposed mixed-use development would be required to meet the current Title 24 energy efficiency standards. The City's administration of the Title 24 requirements and the City's Climate Action Plan includes review of design components and energy conservation measures that occurs during the permitting process, which ensures that all requirements are met. Typical Title 24 measures include insulation; use of energy-efficient heating, ventilation and air conditioning equipment (HVAC); solar-reflective roofing materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; and incorporation of skylights, etc. In complying with the Title 24 standards, impacts to peak energy usage periods would be minimized, and impacts on statewide and regional energy needs would be reduced. All development is required to comply with the adopted California Energy Code (Code of Regulations, Title 24 Part 6).

The Project would consist of an urban infill redevelopment that would provide mixed residential and commercial (retail/restaurant) uses. Since it would be undertaken on a currently developed and underutilized site, and would be located near existing off-site employment, commercial, residential, and retail destinations and in proximity to existing public bus stops and freeways, which would result in reduced vehicle trips and Vehicle Miles Traveled (VMT) in comparison to a Project of similar size and land without close access to employment, service, and retail, destinations; in addition to public transit and freeways.

In addition, the Project site is within an area where existing infrastructure would provide for efficient delivery of electricity and natural gas to the Project and the Project would not inhibit the development of other alternative energy sources. Furthermore, other existing and future regulations are likely to result in more efficient use of all types of energy, and reduction in reliance on non-renewable sources of energy. These include the federal Energy Independence and Security Act, the state Long Term Energy Efficiency Strategic Plan, SB 350 and AB 1007, which are designed to reduce reliance on non-renewable energy resources and reduce demand by providing federal tax credits for purchasing fuel-efficient items and improving the renewable fuel, appliance, and lighting standards. Thus, operation of the proposed Project would not use large amounts of energy or fuel in a wasteful, inefficient, or unnecessary manner, and impacts would be less than significant.

Impact Finding: The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Facts in Support of Findings: The proposed Project would be required to meet the CCR Title 24 energy efficiency standards in effect during permitting of the Project. The City's administration of the CCR Title 24 requirements includes review of design components and energy conservation

measures that occurs during the permitting process, which ensures that all requirements are met. In addition, the Project would not conflict with or obstruct opportunities to use renewable energy, such as solar energy. Redevelopment of the site would not result in obstruction of opportunities for use of renewable energy. Thus, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would not occur.

E. Geology and Soils

Impact Finding: The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 4) (Draft EIR at p. 5.5-7).

Facts in Support of Findings: The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no active faults are known to cross the site. The closest known active faults are associated with the San Joaquin Hills Fault, located approximately 1.5 miles from the site; the Newport-Inglewood Fault Zone, approximately 8.4 miles southwest of the site; and the Elsinore Fault Zone, approximately 13.2 miles northeast of the site. Because no known faults exist on the site, the proposed Project would not expose people or structures to potential substantial adverse effects from rupture of a known earthquake fault that is delineated on an Alquist-Priolo Earthquake Fault Zoning Map or other evidence of a fault, and impacts would not occur.

Impact Finding: The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking (Draft EIR at p. 5.5-7).

Facts in Support of Findings: The Project site is within a seismically active region, with numerous faults capable of producing significant ground motions. The closest known active faults are associated with the San Joaquin Hills Fault, located approximately 1.5 miles from the site; the Newport-Inglewood Fault Zone, approximately 8.4 miles southwest of the site; and the Elsinore Fault Zone, approximately 13.2 miles northeast of the site (GEO 2019). Therefore, Project implementation could subject people and structures to hazards from ground shaking. However, seismic shaking is a risk throughout southern California, and the Project site is not at greater risk of seismic activity or impacts as compared to other areas within the region.

The CBC includes provisions to reduce impacts caused by major structural failures or loss of life resulting from earthquakes or other geologic hazards. For example, Chapter 16 of the CBC contains requirements for design and construction of structures to resist loads, including earthquake loads. The CBC provides procedures for earthquake resistant structural design that include considerations for onsite soil conditions, occupancy, and the configuration of the structure including the structural system and height.

The City of Santa Ana has adopted the CBC as part of the Municipal Code Chapter 8, Article 2, Division 1, which regulates all building and construction projects within the City and implements a minimum standard for building design and construction that includes specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. Structures built in the City are required to be built in compliance with the CBC. The Project would be required to adhere to the provisions of the CBC as part of the building plan check and development review process.

Compliance with the requirements of the CBC for structural safety would reduce hazards from strong seismic ground shaking. Because the proposed Project would be required to be constructed in compliance with the CBC and the City's Municipal Code, which would be verified through the City's plan check and permitting process and is included as PPP GEO-1, the proposed Project would result in a less than significant impact related to strong seismic ground shaking.

Plans, Program and Policies:
PPP GEO-1: CBC Compliance. The Project is required to comply with the California Building Standards Code (CBC) as included in the City's Municipal Code as Chapter 8, Article 2, Division 1, to preclude significant adverse effects associated with seismic and soils hazards. As part of CBC compliance, CBC related and geologist and/or civil engineer specifications for the proposed Project shall be incorporated into grading plans and building specifications as a condition of construction permit approval.

Impact Finding: The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction (Draft EIR at p. 5.5-8).

Facts in Support of Findings: The Project site is located within a liquefaction hazard area. In addition, the Geotechnical Report identified that onsite soils include relatively isolated loose to medium dense sand layers, generally located approximately 40 to 50 feet below existing grade that are considered susceptible to liquefaction; and the depth of groundwater is in the range of 24 to 33 feet below ground surface (bgs), but the historic high groundwater is approximately 10 feet below the existing grade. Based on these onsite soils and groundwater conditions, the Geotechnical Report determined that the seismic settlement potential is estimated to be 2 inches or less; and differential seismic settlement is estimated as 1-inch over a horizontal span of about 40 feet. However, structures built in the City are required to be built in compliance with the CBC, as included in the City's Municipal Code as Chapter 8, Article 2, Division 1 (and in the Draft EIR as PPP GEO-1), which regulates all building and construction projects within the City and implements a minimum standard for building design and construction that includes specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition.

The Geotechnical Report (Geo 2019) prepared for the Project site provides CBC seismic design criteria that are specific to the onsite soils and the potential liquefaction and settlement. Compliance with the CBC, as included as PPP GEO-1, would require proper construction of building footings and foundations so that it would withstand the effects of potential ground movement, including liquefaction and settlement. The CBC, as currently adopted in the City's Municipal Code Chapter 8, Article 2, Division 1, includes provisions to reduce impacts caused by potential major structural failures or loss of life resulting from geologic hazards. The City requires the Project specific engineering design recommendations be incorporated into grading plans and building specifications as a condition of construction permit approval. Therefore, the development of the proposed Project would be required to conform to the seismic design parameters of the CBC, as included as PPP GEO-1, would reduce hazards from seismic-related ground failure, including liquefaction and settlement to a less than significant level.

Plans, Program and Policies:
PPP GEO-1: CBC Compliance. As listed previously.

Impact Finding: The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides (Draft EIR at p. 5.5-9).

Facts in Support of Findings: The Project site ranges from approximately 57 to 65 feet msl and that the site is not located within a mapped area considered potentially susceptible to seismically induced slope instability. In addition, the Project site is not adjacent to any hills or slopes that could be subject to a landslide. Thus, the Project site is not located within or adjacent to an earthquake-induced landslide area, and the Project would not expose people or structures to substantial adverse effects involving landslides, and impacts related to landslides would not occur.

Impact Finding: The Project would not result in substantial soil erosion or the loss of topsoil (Draft EIR at p. 5.5-9).

Facts in Support of Findings: The City's Municipal Code Chapter 18-156, Control of Urban Runoff implements the requirements of the Orange County Municipal NDPES Storm Water Permit (Order No. R8-2016-0001). All projects in the City are required to conform to the permit requirements, which includes installation of Best Management Practices (BMPs) in compliance with the NPDES permit, which establishes minimum stormwater management requirements and controls that are required to be implemented for the proposed Project. To reduce the potential for soil erosion and the loss of topsoil, a Stormwater Pollution Prevention Plan (SWPPP) is required by the Regional Water Quality Control Board (RWQCB) regulations to be developed by a QSD (Qualified SWPPP Developer). The SWPPP is required to address site-specific conditions related to specific grading and construction activities. The SWPPP is required to identify potential sources of erosion and sedimentation loss of topsoil during construction, identify erosion control BMPs to reduce or eliminate the erosion and loss of topsoil, such as use of silt fencing, fiber rolls, or gravel bags, stabilized construction entrance/exit, hydroseeding. With compliance with the City's Municipal Code, RWQCB requirements, and the BMPs in the SWPPP that is required to be prepared to implement the Project, construction impacts related to erosion and loss of topsoil would be less than significant.

In addition, the proposed Project includes installation of landscaping, such that during operation of the Project substantial areas of loose topsoil that could erode would not exist. Also, the onsite drainage features that would be installed by the Project have been designed to slow, filter, and slowly discharge stormwater into the offsite drainage system, which would also reduce the potential for stormwater to erode topsoil during Project operations. Furthermore, implementation of the Project requires City approval of a site specific Water Quality Management Plan (WQMP), which would ensure that the City's Municipal Code, RWQCB requirements, and appropriate operational BMPs would be implemented to minimize or eliminate the potential for soil erosion or loss of topsoil to occur. As a result, potential impacts related to substantial soil erosion or loss of topsoil would be less than significant.

Impact Finding: The Project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (Draft EIR at p. 5.5-10).

Facts in Support of Findings: The elevation of the site ranges from approximately 57 to 65 feet msl and the site is not located on or adjacent to a hillside or slope. Based on the relatively flat topography of the site, lack of a free face nearby and general lack of potentially liquefiable layers in the upper 40 feet, the Geotechnical Report determined that the potential for lateral

spreading on the site is low. Thus, impacts related to lateral spreading would be less than significant. Also, as described previously, impacts related to landslides would not occur.

The Geotechnical Report identified that seismic inducted settlement onsite could be 2 inches or less; and differential seismic settlement is estimated as 1-inch over a horizontal span of about 40 feet The Geotechnical Report prepared for the Project site provides CBC seismic structural design criteria that are specific to the onsite soils, including the soils settlement and minor ground subsidence conditions that could occur. The Project includes excavation and recompaction of soils, and development of foundation systems in compliance with the CBC, as included as PPP GEO-1, which would require proper construction of building foundations to reduce impacts related to settlement and subsidence would not occur onsite.

Also, the CBC, as currently adopted in the City's Municipal Code Chapter 8, Article 2, Division 1, requires that a California Certified Engineering Geologist or California-licensed civil engineer provide site-specific engineering data for the proposed structures, which are reviewed by the City for appropriate inclusion as part of the building plan check and development review process. Compliance with the requirements of the CBC and City's municipal code for structural safety through implementation of as included as PPP GEO-1 would reduce potential impacts to a less than significant level.

Plans, Program and Policies:
PPP GEO-1: CBC Compliance. As listed previously.

Impact Finding: The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (Draft EIR at 5.5-10).

Facts in Support of Findings: The Project site contains medium stiff to hard clays with variable sand content, as well as loose to medium dense, moist to wet clayey and silty sands. Due to the clay content in the onsite soils, the site has the potential for expansion. However, as described in the Draft EIR Section 3.0, *Project Description*, the soils onsite would be excavated to a minimum of 5 feet below the bottom of the building foundations and 5 feet beyond the building perimeters, reconditioned, and recompacted as engineered fill to support the proposed building structures. As part of reconditioning the compacted engineered fill, the soils would be moisture conditioned, as required by the CBC for expansive soils.

Furthermore, prior to approval of construction, an engineering level design geotechnical report is required to be prepared and submitted to the City that details the project designs that have been included to address potential geotechnical and soil conditions pursuant to the CBC requirements, that are included in the City's Municipal Code Chapter 8, Article 2, Division 1, and implemented by PPP GEO-1. Compliance with the CBC, through design level geotechnical specifications that would be reviewed and approved by the City Engineer, per PPP GEO-1 would ensure that potential impacts related to expansive soils would be less than significant.

Plans, Program and Policies:
PPP GEO-1: CBC Compliance. As listed previously.

Impact Finding: The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (Draft EIR at 5.5-11).

Facts in Support of Findings: The Project site is currently connected to the City's sewer system, and the proposed Project would install onsite sewer lines that would connect to the existing sewer lines adjacent to the site. The Project would not use septic tanks or alternative wastewater disposal systems. As a result, impacts related to septic tanks or alternative wastewater disposal systems would not occur from implementation of the proposed Project.

Impact Finding: The Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Draft EIR at 5.5-11).

Facts in Support of Findings: The Project site is underlain by Quaternary aged young alluvial fan deposits and older artificial fill. Quaternary alluvial materials in Orange County are assigned a low paleontological resource sensitivity due to their relatively recent age. Likewise, the Orange County General Plan Figure VI-9 shows that the Project site is not located within an area of paleontological sensitivity.

In addition, the Project site has been previously disturbed from agricultural and development activity. Artificial fill was observed in the field explorations up to 7.5 feet below existing grade and previous excavation and recompaction ranged from 5 feet to 13 feet for development of the existing buildings. The extensive previous excavation, recompaction, and fill soils onsite have further reduced the potential of the site to contain paleontological resources. Because the Project site is within an area of low paleontological resource sensitivity, has been previously disturbed, and the depth of Project excavated is within the previously disturbed soil depths, potential impacts related to paleontological resources would be less than significant.

F. Hazards and Hazardous Materials

Impact Finding: The Project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials (Draft EIR at p. 5.7-21).
Facts in Support of Findings:

Operation

Operation of the proposed Project includes activities related to retail commercial, restaurant, and multi-family residential development, which generally uses common hazardous materials, including: solvents, cleaning agents, paints, pesticides, batteries, and aerosol cans. Although the Project would utilize common types of hazardous materials, normal routine use of these products pursuant to existing regulations would not result in a significant hazard to the environment, residents, or workers in the vicinity of the Project. Therefore, operational impacts related to routine transport, use, and disposal of hazardous materials during operation of the Project would be less than significant.

Impact Finding: The Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment (Draft EIR at p. 5.7-23).

Facts in Support of Findings:

Construction:

Accidental Releases. While the routine use, storage, transport, and disposal of hazardous materials in accordance with applicable regulations during demolition, excavation, grading, and construction activities would not pose health risks or result in significant impacts; improper use, storage, transportation and disposal of hazardous materials and wastes could result in accidental spills or releases, posing health risks to workers, the public, and the environment. The use of Best Management Practices (BMPs) during construction implemented as part of a Stormwater Pollution Prevention Plan (SWPPP) as required by the National Pollution Discharge Elimination System General Construction Permit (and included as PPP WQ-1) would minimize potential adverse effects to workers, the public, and the environment to a less than significant level.

Asbestos Containing Materials. Buildings on the Project site were constructed in 1979 and 1981 when many structures were constructed with what are now recognized as hazardous building materials, such as lead and asbestos. Demolition of these structures could result in the release of hazardous materials. However, asbestos abatement contractors must follow state regulations contained in California Code of Regulations Sections 1529, and 341.6 through 341.14 as implemented by SCAQMD Rule 1403 to ensure that asbestos removed during demolition or redevelopment of the existing buildings is transported and disposed of at an appropriate facility. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it. Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition permit until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. These requirements are included as PPP HAZ-1 to ensure that the Project applicant submits verification to the City that the appropriate activities related to asbestos have occurred, which would reduce the potential of impacts related to asbestos to a less than significant level.

Lead Based Materials. Lead-based materials may also be located within existing structures on the Project site. The lead exposure guidelines provided by the U.S. Department of Housing and Urban Development provide regulations related to the handling and disposal of lead-based products. Federal regulations to manage and control exposure to lead-based paint are described in Code of Federal Regulations Title 29, Section 1926.62, and state regulations related to lead are provided in the California Code of Regulations Title 8 Section 1532.1, as implemented by Cal-OSHA. These regulations cover the demolition, removal, cleanup, transportation, storage and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring and compliance to ensure the safety of construction workers exposed to lead-based materials. Cal/OSHA's Lead in Construction Standard requires project applicants to develop and implement a lead compliance plan when lead-based paint would be disturbed during construction or demolition activities. The plan must describe activities that could emit lead, methods for complying with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. In addition, Cal/OSHA requires 24-hour notification if more than 100 square feet of lead-based paint would be disturbed. These requirements are included as PPP HAZ-2 to ensure that the Project applicant submits verification to the City that the appropriate activities related to lead have occurred, which would reduce the potential of impacts related to lead-based materials to a less than significant level.

Plans, Program and Policies:
PPP WQ-1: NPDES/SWPPP. Prior to issuance of any grading or demolition permits, the applicant shall provide the City Building and Safety Division evidence of compliance with the NPDES (National Pollutant Discharge Elimination System) requirement to obtain a construction permit from the State Water Resource Control Board (SWRCB). The permit requirement applies to grading and construction sites of one acre or larger. The Project applicant/proponent shall comply by submitting a Notice of Intent (NOI) and by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) and a monitoring program and reporting plan for the construction site.

PPP HAZ-1: SCAQMD Rule 1403. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that an asbestos survey has been conducted at all existing buildings located on the Project site. If asbestos is found, the Project applicant shall follow all procedural requirements and regulations of South Coast Air Quality Management District Rule 1403. Rule 1403 regulations require that the following actions be taken: notification of SCAQMD prior to construction activity, asbestos removal in accordance with prescribed procedures, placement of collected asbestos in leak-tight containers or wrapping, and proper disposal.

PPP HAZ-2: Lead. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that a lead-based paint survey has been conducted at all existing buildings located on the Project site. If lead-based paint is found, the Project applicant shall follow all procedural requirements and regulations for proper removal and disposal of the lead-based paint. Cal-OSHA has established limits of exposure to lead contained in dusts and fumes. Specifically, CCR Title 8, Section 1532.1 provides for exposure limits, exposure monitoring, and respiratory protection, and mandates good working practices by workers exposed to lead.

Operation
Development under the proposed Project would involve multi-family, restaurant, and retail commercial uses that would use and store common hazardous materials such as paints, solvents, and cleaning products. Also, building mechanical systems and grounds and landscape maintenance could also use a variety of products formulated with hazardous materials, including fuels, cleaners, lubricants, adhesives, sealers, and pesticides/herbicides.

Normal routine use of these products pursuant to existing regulations would not result in a significant hazard to the environment, residents, or workers in the vicinity of the Project. In addition, a Water Quality Management Plan (WQMP) is required to be implemented for the Project (included as PPP WQ-2). The WQMP would protect human health and the environment should any accidental spills or releases of hazardous materials occur during operation of the Project. As a result, operation of the proposed Project would not result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

Plans, Program and Policies:
PPP WQ-2: WQMP. Prior to the approval of the Grading Plan and issuance of Grading Permits a completed Water Quality Management Plan (WQMP) shall be submitted to and approved by the City Building and Safety Division. The WQMP shall identify all Post-Construction, Site Design. Source

Control, and Treatment Control Best Management Practices (BMPs) that will be incorporated into the development project in order to minimize the adverse effects on receiving waters.

Impact Finding: The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within 0.25 mile of an existing or proposed school (Draft EIR at p. 5.7-25).

Facts in Support of Findings: The Project site is located 0.7 mile from the closest school, which is Heritage Elementary School, located at 15400 Landsdowne Road, Tustin. Thus, the proposed Project would not be within one-quarter mile of an existing school.

Impact Finding: The Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment (Draft EIR at p. 5.7-26).

Facts in Support of Findings: The Phase I Environmental Site Assessments that was conducted database searches to determine if the Project area or any nearby properties are identified as currently having hazardous materials. The record searches determined that although the site has a history of various uses, and identified as previously generating hazardous wastes and clean-up activities, the Project site is not located on or near by a site which is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5.

Additionally, the Phase I ESA did not identify any nearby or surrounding area sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, impacts related to hazards from being located on or adjacent to a hazardous materials site would not occur from implementation of the proposed Project.

Impact Finding: The Project would not result in a safety hazard or excessive noise for people residing or working in the project area for a project located within an airport land use plan or, where such plan has not been adopted, be within 2 miles of a public airport use airport or public use airport (Draft EIR at p. 5.7-26).

Facts in Support of Findings: John Wayne Airport (JWA) is located approximately 2.2 miles southwest of the Project site under the primary aircraft approach corridor. The Project site is not located within JWA's Airport Safety Zone, as shown in Draft EIR Figure 5.7-1) and is located outside of the airport's 55 CNEL contours (Draft EIR Figures 5.7-2 and 5.7-3). Table 1 of the Airport Environs Land Use Plan (AELUP) for John Wayne Airport shows that residential land uses outside of the 60 CNEL contour are "normally consistent". Thus, development of residential units on the Project site would not result in excessive noise for people residing or working in the project area.

Also, because the Project would not exceed the JWA FAR Part 77 Notification Area for JWA (100:1 imaginary surface slope extending outward for 20,000 feet) (Final EIR Figure 1), the Project site is not located within the AELUP Notification area for JWA, not within the JWA planning area boundary, FAA and ALUC notification of the proposed Project would not be required. The tallest point on the proposed structures would be approximately 94-feet from ground level. At 2.2 miles from JWA and at a maximum height of 94-feet, the Project would not create any imaginary surfaces with any of the specific slope characteristics within the imaginary surface area for the airport (shown on Figure 1 of the Final EIR).

In addition, the proposed Project would not result in hazards related to excessive glare, light, steam, smoke, dust, or electronic interference. As described in Draft EIR Section 5.1, *Aesthetics*, the proposed Project would not generate substantial light or glare. Exterior lighting fixtures and security lighting would be installed in accordance with Municipal Code Division 3, *Building Security Regulations*, which includes specifications for shielding and intensity of security lighting. In addition, the proposed Project would not use highly reflective surfaces, and does not include large areas of glass on the buildings. Therefore, the Project would not generate substantial sources of glare.

As described in Draft EIR Section 5.2, *Air Quality*, operation of the proposed residential and commercial uses would not generate substantial quantities of steam, smoke, or dust emissions. As described, dust emissions are regulated by AQMD requirements and construction related air quality emissions that could include steam, smoke, and dust emissions would be less than significant with implementation of the standard AQMD Rules listed in Section 5.2, *Air Quality*.

The proposed Project consists of residential and commercial uses that would include the use of typical electronics, such as computers, televisions, and other electronics with wireless capability. These types of electronics are currently being used by the existing industrial land uses on the site, and other uses in the vicinity of the site. The new residential and commercial uses on the site would use similar technology that does not cause electronic interference that could affect aircraft. Thus, impacts related to electronic interference with operations of the JWA would not occur.

Overall, because the Project is not located within the JWA Airport Safety Zone, the Airport Impact Zone, outside of the JWA 55 CNEL noise contour; and would not penetrate the imaginary surfaces area or result in hazards related to excessive glare, light, steam, smoke, dust, or electronic interference, the proposed Project would not introduce a safety hazard associated with airport operations for people residing, working, and visiting the Project site. Thus, Project-related hazard and noise impacts associated with JWA operations would be less than significant.

Impact Finding: The Project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan (Draft EIR at p. 5.7-27).

Facts in Support of Findings:

Construction

The proposed construction activities, including equipment and supply staging and storage, would occur within and adjacent to the Project site and would not restrict access of emergency vehicles to the Project site or adjacent areas. Full roadway closure and traffic detours are not expected to be necessary. Construction activities that may temporarily restrict vehicular traffic would be required to implement adequate measures to facilitate the safe passage of persons and vehicles through/around any required temporary road restrictions in accordance with Section 503 of the California Fire Code (Title 24, California Code of Regulations, Part 9), which requires that prior to any activity that would encroach into a right-of-way, the area of encroachment be safeguarded through the installation of safety devices that would be specified by the City's Building and Safety Division during the construction permitting process to ensure that construction activities would not physically interfere with emergency access or evacuation. Therefore, implementation of the Project through the City's permitting process would reduce potential construction related physical interference impacts to emergency access to a less than significant level.

Operation

The Project would include vehicular access to the site from driveways on both Warner and Red Hill Avenues. As described in draft EIR Section 5.13, *Transportation*, these driveways would provide adequate and safe circulation to, from, and through the Project site and would provide a variety of routes for emergency responders to access the Project site and surrounding areas.

During operation of the Project, residents and commercial building tenants would be required to maintain adequate emergency access for emergency vehicles as required and verified by the City and the OCFA. Because the Project is required to comply with all applicable City codes, as verified by the City and OCFA, potential impacts related to emergency evacuation or emergency response plans would be less than significant.

Impact Finding: The Project would not expose people or structures either directly or indirectly to a significant risk of loss, injury, or death involving wildland fires (Draft EIR at p. 5.7-28).

Facts in Support of Findings: The Project site is located within an urban developed area and is not located within an identified wildland fire hazard area and is not an area where residences are intermixed with wildlands. In addition, implementation of the proposed Project would be required to adhere to the following chapters of the City's Municipal Code to reduce potential fire hazards: Chapter 8.2 Uniform Building Code, Chapter 8.4 Uniform Mechanical Code, Chapter 8.5 National Electric Code, and Chapter 14 City of Santa Ana Fire Code. Additionally, the Project would be in compliance with any further guidelines from OCFA related to fire prevention and is subject to approval by the City's Building Division. Therefore, the proposed Project would not expose people or structures to a significant risk of loss, injury, or death from wildfires.

G. Hydrology and Water Quality

Impact Finding: The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality (Draft EIR at p. 5.8-11).

Facts in Support of Findings:

Construction

Pollutants of concern during construction activities generally include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction, which would have the potential to be transported via storm runoff into nearby receiving waters and eventually may affect surface or groundwater quality. During construction activities, excavated soil would be exposed, thereby increasing the potential for soil erosion and sedimentation to occur compared to existing conditions. In addition, during construction, vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion that could affect water quality.

However, the use of BMPs during construction implemented as part of a SWPPP as required by the NPDES General Construction Permit and included as PPP WQ-1 would serve to ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant.

Operation

The proposed Project includes operation of retail and restaurant commercial and multi-family residential uses. Potential pollutants associated with the proposed uses include various chemicals from cleaners, pathogens from pet wastes, nutrients from fertilizer, pesticides and sediment from landscaping, trash and debris, and oil and grease from vehicles. If these pollutants discharge into surface waters, it could result in degradation of water quality. As described previously, San Diego Creek Reach1 and the Upper Newport Bay, to which the Project site ultimately drains, are currently listed as impaired on the EPA's 303(d) list for various pollutants.

However, operation of the proposed Project would be required to comply with the requirements of the Santa Ana Regional MS4 Permit to develop of a project-specific WQMP (included as PPP WQ-2) that would describe implementation of LID infrastructure and non-structural, structural, and source control and treatment control BMPs to protect surface water quality.

The Project site is located within the Selenium Concentration Area and the South Basin Groundwater Protection Project area, and is adjacent to the Tustin Marine area, as shown in Draft EIR Figure 5.8-1. Infiltration into the groundwater is prohibited by OCWD within these areas. As such, infiltration of water quality pollutants from the Project would not occur, which would reduce potential impacts to groundwater quality.

In addition, the proposed Project would install Modular Wetland System units for water quality treatment, which have been sized to treat runoff from the Design Capture Storm (85th percentile, 24-hour) from the proposed Project. The Modular Wetland System units proposed for the Project consist of biotreatment systems that utilize multi-stage treatment processes including screening media filtration, settling, and biofiltration. The pre-treatment chamber contains a catch basin inlet filter to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine silts, metals, nutrients, and bacteria. Runoff then flows through the wetland chamber where treatment of the water is done through a variety of physical, chemical, and biological processes. As storm water passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded and sequestered by the soil and plants, functioning similar to bioretention systems. The discharge chamber at the end of the unit collects treated flows and discharges it into the existing storm drain in Red Hill Avenue.

The WQMP is required to be approved prior to the issuance of a building or grading permit. The Project's WQMP would be reviewed and approved by the City to ensure it complies with the Santa Ana RWQCB MS4 Permit regulations. Overall, implementation of the WQMP pursuant to the existing regulations would ensure that operation of the proposed Project would not violate any water quality standards, waste discharge requirements, or otherwise degrade water quality; and impacts would be less than significant.

Plans, Program and Policies:

PPP WQ-1: NPDES/SWPPP. Prior to issuance of any grading or demolition permits, the applicant shall provide the City Building and Safety Division evidence of compliance with the NPDES (National Pollutant Discharge Elimination System) requirement to obtain a construction permit from the State Water Resource Control Board (SWRCB). The permit requirement applies to grading and construction sites of one acre or larger. The Project applicant/proponent shall comply by submitting a Notice of Intent (NOI) and by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) and a monitoring program and reporting plan for the construction site.

PPP WQ-2: WQMP. Prior to the approval of the Grading Plan and issuance of Grading Permits a completed Water Quality Management Plan (WQMP) shall be submitted to and approved by the City Building and Safety Division. The WQMP shall identify all Post-Construction, Site Design. Source Control, and Treatment Control Best Management Practices (BMPs) that will be incorporated into the development project in order to minimize the adverse effects on receiving waters.

Impact Finding: The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin (Draft EIR at p. 5.8-13).

Facts in Support of Findings: As detailed in Draft EIR Section 5.16, *Utilities and Service Systems*, Table 5.8-2 the City's water supply would be sufficient during both normal years and multiple dry year conditions between 2020 and 2040 to meet all of the City's estimated needs, including the proposed Project. Therefore, the Project would not result in changes to the projected groundwater pumping that would decrease groundwater supplies. Thus, impacts related to groundwater supplies would be less than significant.

In addition, the onsite soils have a low infiltration rate and do not currently provide onsite infiltration; and the Project site is located within an infiltration constraints area (Draft EIR Figure 5.8-1) and infiltration is prohibited due to existing pollutant plumes under or adjacent to the site. Therefore, impacts related to interference with groundwater recharge would be less than significant.

Impact Finding: The Project would not substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in a substantial erosion or siltation on- or off-site (Draft EIR at p. 5.8-14).

Facts in Support of Findings:

Construction

The existing NPDES Construction General Permit and Orange County DAMP require preparation and implementation of a SWPPP by a Qualified SWPPP Developer for the proposed construction activities (included as PPP WQ-1). The SWPPP is required to address site-specific conditions related to potential sources of sedimentation and erosion and would list the required BMPs that are necessary to reduce or eliminate the potential of erosion or alteration of a drainage pattern during construction activities to a less than significant level.

Operation

The proposed Project would maintain the existing drainage pattern. The runoff from the Project area would be collected by roof drains, surface flow designed pavement, curbs, and area drains and conveyed Modular Wetland System units for treatment. The Modular Wetland System units contain catch basin inlet filters to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine silts, metals, nutrients, and bacteria.

The MS4 permit and DAMP require new development projects to prepare a WQMP (included as PPP WQ-2) that is required to include BMPs to reduce the potential of erosion and/or sedimentation through site design and structural treatment control BMPs. The proposed drainage system and adherence to the existing regulations would ensure that Project impacts related to alteration of a drainage pattern and erosion/siltation from operational activities would be less than significant.

Plans, Program and Policies
PPP WQ-1: NPDES/SWPPP. As listed previously.

PPP WQ-2: **WQMP.** As listed previously.

Impact Finding: The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (Draft EIR at p. 5.8-15).

Facts in Support of Findings:
Construction
As described previously, implementation of the Project requires a SWPPP (included as PPP WQ-1) that would address site specific drainage issues related to construction of the Project and include BMPs to eliminate the potential of flooding or alteration of a drainage pattern during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to potential alteration of a drainage pattern or flooding on or off-site from development activities. Therefore, impacts would be less than significant.

Operation
The Project would maintain the existing drainage pattern by collecting runoff in roof drains, curbs, and area drains and conveying it to one of four Modular Wetland System units for treatment. Treated runoff would be conveyed to the existing 84-inch drain located within Red Hill Avenue.

Although the Project related runoff conditions (flow rates and durations) would increase from predevelopment conditions (shown in Draft EIR Table 5.8-1), the Project would manage the increased flow with Modular Wetland System units that have been designed to accommodate the increased volume pursuant to the MS4 permit and DAMP requirements. The units would retain, filter, and slowly discharge runoff into the existing off-site drain. As part of the permitting approval process, the proposed drainage design and engineering plans would be reviewed by the City's Engineering Division to ensure that the proposed drainage would accommodate the appropriate design flows. Overall, the proposed drainage system and adherence to the existing MS4 permit and DAMP regulations would ensure that Project impacts related to alteration of a drainage pattern or flooding from operational activities would be less than significant.

Plans, Program and Policies
PPP WQ-1: NPDES/SWPPP. As listed previously.

PPP WQ-2: **WQMP.** As listed previously.

Impact Finding: The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (Draft EIR at p. 5.8-16).

Facts in Support of Findings:

Construction

Implementation of the Project requires a SWPPP (included as PPP WQ-1) that would address site specific pollutant and drainage issues related to construction of the Project and include BMPs to eliminate the potential of polluted runoff and increased runoff during construction activities. This includes regular monitoring and visual inspections during construction activities. Compliance with the Construction General Permit and a SWPPP prepared by a QSD and implemented by a QSP (per PPP WQ-1) as verified by the City through the construction permitting process would prevent construction-related impacts related to increases in run-off and pollution from development activities. Therefore, impacts would be less than significant.

Operation

The Project would manage increased stormwater flow with Modular Wetland System units that have been designed to accommodate the increased volume pursuant to the MS4 permit and DAMP requirements. The units would retain, filter, treat, and slowly discharge runoff into the existing off-site drain. Additionally, the City permitting process would ensure that the drainage system accommodate new flows and that specifications adhere to the existing MS4 permit and DAMP regulations, which would ensure that pollutants are removed prior to discharge. Overall, with compliance to the existing regulations as verified by the City's permitting process, Project impacts related to the capacity of the drainage system and polluted runoff would be less than significant.

Plans, Program and Policies

PPP WQ-1: NPDES/SWPPP. As listed previously.

PPP WQ-2: **WQMP.** As listed previously.

Impact Finding: The Project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows (Draft EIR at p. 5.8-17).

Facts in Support of Findings: The Project site does not include, and is not adjacent to, a stream or river. Implementation of the Project would not alter the course of a stream or river. In addition, according to the FEMA FIRM for the Project area (06059C0279J), the Project site is located within "Zone X," which is an area determined to be outside of the 0.2 percent annual chance flood. Therefore, there is a low potential for onsite flooding to occur.

The Project would maintain the existing drainage pattern; and drainage would be accommodated by onsite by Modular Wetland System units that have been sized to accommodate the DAMP required design storm. Therefore, the Project would not result in impeding or redirecting flood flows by the addition of the impervious surfaces. As detailed previously, the City's permitting process would ensure that the drainage system specifications adhere to the existing MS4 permit and DAMP regulations, and compliance with existing regulations would ensure that impacts would be less than significant.

Plans, Program and Policies

PPP WQ-1: NPDES/SWPPP. As listed previously.

PPP WQ-2: **WQMP.** As listed previously.

Impact Finding: The Project would risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zones, (Draft EIR at p. 5.8-18).

Facts in Support of Findings: The FEMA FIRM for the Project area (06059C0279J) shows that the Project site is located within "Zone X," which is an area of minimal flood hazard potential outside of the 0.2 percent annual chance flood. Thus, the Project site is not located within a flood hazard area that could be inundated with flood flows and result in release of pollutants. Impacts related to flood hazards and pollutants would not occur from the Project.

The Project site is over 8.5 miles from the Pacific Ocean, and outside of the Tsunami Hazard Zone identified by the California Department of Conservation. Thus, the Project site would not be inundated by a tsunami that could result in the release of pollutants, and impacts would not occur. Additionally, because the Project site is not within the vicinity of a water body, it is not at risk for seiche flood hazards. Therefore, the release of pollutants on the Project site resulting from a seiche inundation would not occur

Impact Finding: The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Draft EIR at p. 5.8-18).

Facts in Support of Findings: Use of BMPs during construction implemented as part of a SWPPP as required by the NPDES Construction General Permit and PPP WQ-1 would serve to ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant. Thus, construction of the Project would not conflict or obstruct implementation of a water quality control plan.

Also, development projects are required to implement a WQMP (per the Regional MS4 Permit) that would comply with the Orange County DAMP. The WQMP and applicable BMPs are verified as part of the City's permitting approval process, and construction plans would be required to demonstrate compliance with these regulations. Therefore, operation of the proposed Project would not conflict of obstruct with a water quality control plan.

In addition, as detailed previously, the OCWD manages basin water supply through the Basin Production Percentage (BPP), such that, the anticipated production of groundwater would remain steady from 2025 through 2040 (as shown in Draft EIR Table 5.8-1). As detailed in Draft EIR Section 5.16, *Utilities and Service Systems*, the City's supply of water listed in Draft EIR Table 5.8-1 would be sufficient during both normal years and multiple dry year conditions between 2020 and 2040 to meet all of the City's estimated needs, including the proposed Project. Therefore, the Project would be consistent with the groundwater management plan and would not conflict with or obstruct its implementation. Thus, impacts related to water quality control plan or sustainable groundwater management plan would be less than significant.

Plans, Program and Policies
PPP WQ-1: NPDES/SWPPP. As listed previously.

PPP WQ-2: **WQMP.** As listed previously.

H. Land Use and Planning

Impact Finding: The Project would not physically divide an established community (Draft EIR at p. 5.9-20).

Facts in Support of Findings: The Project site is surrounded by roadways on two sides and existing business park and industrial warehouse buildings on the other two sides. Areas across Warner Avenue, which is a 6-lane arterial roadway, include commercial office uses. The land directly across Redhill Avenue (also a 6-lane arterial roadway) from the Project site is undeveloped land within the Tustin Legacy Specific Plan area that is planned for employment uses, such as: professional office, business park, and commercial uses.

Areas to the northeast of the site, across both Red Hill Avenue and Warner Avenue, are also within the Tustin Legacy Specific Plan area and are partially developed with public serving uses that include a US Armed Forces Reserve Center, Orange County Sheriff Training Academy, and an animal shelter.

The proposed Project would redevelop the site to provide a mixed-use development that would provide residences, restaurant, and retail services near employment generating uses, which are complementary community uses. The change of the Project site from a partially underutilized light industrial site to a residential and commercial mixed-use site would not physically divide an established community. In addition, the Project would not change roadways or install any infrastructure that would result in a physical division. Thus, the proposed Project would result in less than significant impacts related to physical division of an established community.

Impact Finding: The Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (Draft EIR at p. 5.4-21 and Final EIR Chapters 2 and 3).

Facts in Support of Findings:
2016 RTP/SCS. The 2016 RTP/SCS Goals that are relevant to the proposed Project focus largely on maximizing mobility, encouraging development patterns and densities that reduce infrastructure costs, and provide for efficiency. The proposed Project would be consistent with the applicable SCAG's 2016 RTP/SCS goals, as detailed in Draft EIR Table 5.9-1. Therefore, implementation of the proposed Project would not result in conflict with RTP/SCS goals, and impacts would not occur.

JWA Airport Environs Land Use Plan. JWA is located approximately 2.2 miles southwest of the Project site under the primary aircraft approach corridor, but not within the AELUP Notification area or JWA planning area. As detailed in the Final EIR, the Project site is 1) located outside of the JWA 60 CNEL contour (Draft EIR Figures 5.7-2 and 5.7-3); 2) not located within the airport safety zones (Draft EIR Figure 5.7-1); and 3) would not would not penetrate the FAR Part 77 100:1 Notification Area elevation (Final EIR Figure 1). As a result, the AELUP identifies the proposed mix-use residential land uses as normally consistent. Thus, pursuant to the AELUP for JWA, impacts related to land use compatibility would not occur.

Land Use Consistency. Development of the site for multi-family residential and commercial (retail/restaurant) uses would integrate into the planned development of these adjacent and nearby areas. The site would provide housing for local employees working nearby in Santa Ana, Tustin, and Irvine. The site would also provide commercial retail services and restaurants for onsite

residents and employees working nearby. The site would provide both vehicular and pedestrian access and would integrate into the land uses of the area.

The Project would not result in a land use inconsistency. Rather, designating lands for mixed-uses, including multi-family residential, would provide locational efficiently as it allows people to work, live, and obtain services and restaurants within a small area, which has the potential to reduce Vehicle Miles Traveled in comparison to residential development that is farther from employment services and restaurants.

Also, the proposed land use designation change from PAO to DC would not conflict with a policy or plan adopted for the purpose of avoiding or mitigating an environmental effect. The PAO land use designation does not provide avoidance of an environmental effect and the DC land use designation provides for development flexibility to design a project that could avoid an environmental effect. Therefore, impacts related to land use inconsistency would be less than significant.

General Plan Goals, Policies, and Objectives. A detailed analysis of the proposed Project's consistency with the applicable goals, policies, and objectives of the City's General Plan that serve to avoid or mitigate environmental impacts is provided in Draft EIR Table 5.9-3. As described in the Table, the proposed Project would be consistent with the relevant goals, policies, and objectives of the City's General Plan that avoid or mitigate environmental impacts, and impacts related to conflict with a General Plan policy related to an environmental effect would be less than significant.

Zoning Code. A majority of the proposed development consists of development of 6 story mixed use structures and 7-levels of above ground parking that would be approximately 94-feet in height at the tallest point. The purpose of the proposed SD zone is to promote the public health, safety, and general welfare by the use of good design principles, maintaining an orderly and harmonious appearance, and encouraging excellence of property development. When development projects are proposed within the SD zone, they are required (per Zoning Code Section 41-593.4) to submit development plans for architectural review. The Project would create an attractive, cohesive mixed-use community through the use of contemporary architectural materials and landscaping throughout the Project site. As required by the Zoning Code, the proposed Project's development plans would be reviewed by the City to ensure consistency with development standards. Thus, impacts related to zoning would not occur from the proposed Project.

I. Noise

Impact Finding: The Project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (Draft EIR at p. 5.10-15).

Facts in Support of Findings:

Construction

Per Section 18-314 (Special Provisions) of the City's Municipal Code noise sources associated with construction activities are exempt from the City's established noise standards as long as the activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday or a federal holiday. The proposed Project's construction activities would occur pursuant to these regulations. Thus, the proposed Project would be in compliance with the City's construction related noise standards.

As shown on Draft EIR Table 5.10-6, construction noise at the nearby receiver locations would range from 51.0 to 71.4 dBA Leq, which would not exceed the 85 dba L_{eq} daytime construction noise level threshold (the National Institute for Occupational Safety and Health (NIOSH) Criteria for Recommended Standard: Occupational Noise Exposure) at nearby non-residential non-sensitive receiver locations. Therefore, construction impacts would be less than significant.

Also, the increase in temporary noise from Project construction, as detailed in Draft EIR Table 5.10-7, would not exceed the 12 dBA Leq significance threshold (per Caltrans Traffic Noise Analysis Protocol). Therefore, impacts related to substantial increases in ambient noise related to construction activity would be less than significant.

Operation

Onsite Operational Noise. Noise generated by the Project site would occur from stationary equipment such as heating, ventilation, and air conditioning (HVAC) units that would be installed for the new development, use of parking facilities, trash removal activity, and activity at outdoor gathering areas. Based on these typical noise levels, operation of the Project would not result in an exceedance of the City's Municipal Code Section 18-313 noise standards. Also, the City's building and plan check permitting process includes verification that the location of operational noise sources would not result in an exceedance of the municipal code standards. Thus, the City's standards development permitting process would ensure that the proposed Project would not generate on-site operational noise that would exceed noise standards. Therefore, impacts would be less than significant.

Onsite Traffic Noise. The location and design of the multi-family residential outdoor common areas substantially limits the exposure to traffic noise. As shown on Draft EIR Table 5.10-8, the exterior noise levels at the multi-family residential outdoor common areas would range from 45.1 to 57.7 dBA CNEL, which is below the General Plan Noise Element 65 dBA CNEL exterior noise level standard for outdoor common areas. Therefore, the on-site traffic noise impacts at the multi-family residential outdoor common areas would be less than significant.

Offsite Traffic Noise. In the existing with Project conditions (Draft EIR Table 5.10-9) noise would range from 66.8 to 75.8 dBA CNEL. Implementation of the proposed Project A would generate a noise level increase of up to 0.5 dBA CNEL on the study area roadway segments, which is less than the 1.5 dBA CNEL threshold for areas above 65 dBA CNEL. Thus, off-site traffic noise impacts in the existing plus Project condition would be less than significant.

In the opening year (2022) with Project conditions (Draft EIR Table 5.10-10) noise would range from 67.4 to 76.2 dBA CNEL. Implementation of the proposed Project would generate a noise level increase of up to 0.5 dBA CNEL on the study area roadway segments, which is less than the 1.5 dBA CNEL threshold for areas above 65 CNEL. Thus, off-site traffic noise impacts in the opening year plus Project condition would be less than significant.

In 2040 with Project conditions (Draft EIR Table 5.10-11) noise would range from 69.7 to 76.6 dBA CNEL. Implementation of the proposed Project would generate a noise level increase of up to 0.4 dBA CNEL on the study area roadway segments, which is less than the 1.5 dBA CNEL threshold for areas above 65 CNEL. Thus, off-site traffic noise impacts in the 2040 plus Project condition would be less than significant.

Interior Noise. The roadways near the Project site would generate noise. However, Draft EIR Tables 5.10-12 through 5.10-15 show that based with a "windows closed" condition with standard windows with a minimum Sound Transmission Class (STC) of 27, the interior noise levels of the residential units would be below the 45 dBA CNEL interior noise standard. Therefore, impacts related to interior noise would be less than significant.

Impact Finding: The Project would not generate excessive groundborne vibration or groundborne noise levels (Draft EIR at p. 5.10-26).

Facts in Support of Findings:

Construction

Demolition, excavation, and grading activities are required for the Project and can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Based on the reference vibration levels provided by the Federal Transit Administration (FTA), a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. At distances ranging from 85 to 667 feet from construction, vibration levels are anticipated to range from 0.001 to 0.014 in/sec PPV, as shown on Draft EIR Table 5.10-16. These vibration levels would not be sustained during the entire construction period but would occur only during the times that heavy construction equipment is operating in the vicinity of the sensitive receivers. This level of vibration would be below the Caltrans building damage threshold of 0.3 in/sec PPV and vibration standard of 0.04 in/sec PPV for human annoyance at all receiver locations. Therefore, vibration impacts would be less than significant.

Operation

Operation of the proposed commercial and multi-family uses would include heavy trucks for residents moving in and out of the rental units, product deliveries to retail and restaurant uses, and garbage trucks for solid waste disposal. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. However, typical vibration levels for the heavy truck activity at normal traffic speeds would be approximately 0.006 in/sec PPV, based on the FTA Transit Noise Impact and Vibration Assessment. Truck movements on site would be travelling at very low speed, so it is expected that truck vibration at nearby sensitive receivers would be less than the vibration threshold of 0.08 in/sec PPV for fragile historic buildings and 0.04 in/sec PPV for human annoyance, and therefore, would be less than significant.

Impact Finding: The Project would not expose people residing or working in the Project area to excessive airport noise levels within an airport land use plan or within two miles of a public airport (Draft EIR at p. 5.10-27).

Facts in Support of Findings: The exterior noise thresholds outlined in the AELUP, multi-family residential development is considered *normally consistent* with exterior noise levels of less than 60 dBA CNEL, *conditionally consistent* with exterior noise levels between 60 and 65 dBA CNEL and *normally inconsistent* with exterior noise level above 65 dBA CNEL. For commercial retail land use, exterior noise levels are considered *normally consistent* with exterior noise levels of less than 65 dBA CNEL and *conditionally consistent* with exterior noise level above 65 dBA CNEL.

As shown on Draft EIR Figure 5.10-2, the Project site is located outside the 55 dBA CNEL aircraft noise level contour boundaries of JWA. Therefore, according to the AELUP, the Project residential and commercial retail land use is considered *normally consistent* with JWA aircraft noise exposure exterior noise level compatibility thresholds. Also, the airport related noise at the Project site does not exceed the City's municipal code permissible noise levels. Additionally, the County's General Aviation Noise Ordinance that prohibits

commercial aircraft departures between the hours of 10:00 p.m. and 7:00 a.m. and arrivals between the hours of 11:00 p.m. and 7:00 a.m. These restrictions substantially limit the aircraft noise during the noise sensitive nighttime hours for residential use. Overall, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts would be less than significant.

J. Population and Housing

Impact Finding: The Project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (Draft EIR at p. 5.11-9).

Facts in Support of Findings: Draft EIR Table 5.11-7 shows that at full occupancy the Project would house approximately 2,081 residents, which would constitute a 0.62 percent increase over the 2019 City of Santa Ana population of 337,716. In addition, the 1,150 new multi-family units would constitute a 1.5 percent increase in the total number of residential units in the City, and a 4.5 percent increase in the number of the multi-family residential units (5+ units) within the City.

As SCAG projects that the City and County will experience a population increase of 7.4 percent by 2040, the population of the Project would be within the projected population growth. Similarly, SCAG anticipates the number of housing units throughout the County would increase by 10.2 percent by 2040. Thus, the 1,150 new multi-family units would also be within the SCAG projected growth. Additionally, the 320 employment opportunities that would be generated by the Project would be 0.27 percent of the existing jobs within 2-miles of the Project site; and therefore, would not result in induced unplanned employment growth.

The existing jobs-housing ratio is 2.08 in Santa Ana and is projected to be 2.13 in 2040. The proposed Project would reduce the jobs-housing ratio slightly to 2.05; and to 2.10 in 2040, as shown in Draft EIR Table 5.11-8. This would be a beneficial effect of providing multi-family housing on the Project site in a jobs-rich area, where employees can easily travel to nearby employment opportunities.

Regarding infrastructure, the Project site is adjacent to existing roadways that would not be extended to serve the Project. Likewise, water and wastewater services would be provided by connections to the existing infrastructure within Red Hill Avenue and Warner Avenue, which would accommodate the proposed Project, as described in Draft EIR Section 5.15, *Utilities and Service Systems*. Provision of continued (but greater volumes) water and sewer services to the Project site would not result in the need to extend infrastructure. Therefore, indirect impacts related to the extension of infrastructure would not occur from implementation of the proposed Project.

Overall, the Project would not result in inducement of population growth that would have the potential to create a significant physical change to the environment. As a result, impacts related to population growth are less than significant.

Impact Finding: The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (Draft EIR at p. 5.11-11).

Facts in Support of Findings: The Project site is currently developed with three industrial buildings, one of which is currently being used as a temporary 200-bed homeless shelter through a short-term lease for use of the site on an interim basis until redevelopment of the site commences. The City of

Santa Ana is working on various homeless shelter solutions, including the purchase of a permanent homeless shelter site, that are anticipated to be available for the existing persons on the Project site prior to construction of the proposed Project. Therefore, the proposed Project would not result in displacement of substantial numbers of people, such that construction of replacement housing elsewhere would be necessary. As a result, impacts would be less than significant.

K. Public Services

Fire Protection

Impact Finding: The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire service facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios and response times or other performance objectives for fire protection services (Draft EIR at p. 5.12-4).

Facts in Support of Findings: The proposed Project is anticipated to result in 2,081 residents and 320 employees at full occupancy. This residential and employee population is expected to create the typical range of service calls to OCFA that are largely related to medical emergencies. However, fire protection equipment and staffing can be augmented by the City as needed (with assistance from revenue provided by the Project and the fire facilities fee required per Chapter 8-46 of the Municipal Code) to expand fire protection and emergency medical staffing and equipment provided from existing stations and better accommodate simultaneous service calls.

Because the Project site is within 3.5 miles of 6 existing fire stations and the Project site is within a developed area that is currently served by these stations, the Project would not result in the requirement to construct a new or physically altered fire station. Therefore, impacts related to fire protection services would be less than significant.

Police Services

Impact Finding: The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police service facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios and response times or other performance objectives for police services (Draft EIR at p. 5.12-7).

Facts in Support of Findings: The proposed Project addresses typical residential security concerns by providing low-intensity security lighting, security cameras, electronic access to buildings, and 24-hour security personnel. Pursuant to the City's existing permitting process, the Police Department would review and approve the final site plans to ensure that crime prevention design measures are incorporated appropriately to provide a safe environment.

The proposed Project would result in an incremental increase in demands on law enforcement services and would require two additional officers based on the Police Department's 2018 staffing of 1.07 officers per thousand population. The two additional officers could be located at the Southeast Substation that is 2.2 miles from the proposed Project. Therefore, the proposed Project would not result in the need for, new or physically altered police protection facilities. Thus, substantial adverse physical impacts associated with the provision of new or expanded facilities would not occur, and impacts are less than significant.

School Services

Impact Finding: The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts (Draft EIR at p. 5.12-10).

Facts in Support of Findings: The proposed Project would develop 1,150 residential units, which would provide housing for families that have school children. As detailed in Draft EIR Section 5.12.4.5, *School Service Environmental Impacts*, the proposed Project would result in 334 students at full occupancy. As shown in Draft EIR Table 5.12-2, the school facilities that would serve the Project have a remaining capacity for 1,589 students, which would be able to accommodate the student from the site and continue to have capacity to serve additional students.

In addition, the need for additional school facilities is addressed through compliance with school impact fee assessment. The existing Santa Ana Unified School District development impact fee is $3.79 per square foot for all new residential development, and $0.61 per square foot for new commercial development. Pursuant to Government Code Section 65995 applicants shall pay developer fees to the appropriate school districts at the time building permits are issued; and payment of the adopted fees provides full and complete mitigation of school impacts. As a result, impacts related to school facilities would be less than significant.

L. Park and Recreation

Impact Finding: The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, the construction of which could cause significant environmental impacts (Draft EIR at p. 5.13-5).

Facts in Support of Findings: The proposed Project is anticipated to result in 2,081 residents at full occupancy and includes 174,555 square feet of exterior open space recreation area and approximately 8,008 square feet of interior amenities to total 183,363 square feet of recreational and open space onsite. These onsite amenities are anticipated to meet many of the park and recreation needs of Project residents.

The new residential population is also anticipated to utilize existing off-site park and recreation facilities. As described listed in Draft EIR Table 5.13-1, there is currently 81.88 acres of Santa Ana parkland within 3-miles of the Project site. These existing City of Santa Ana parks provide a variety of facilities that include sports fields, exercise equipment, picnic areas, and playgrounds. In addition, there are 97.9 acres of parkland within the City of Tustin and 63.6 acres of parkland within the City of Irvine Park facilities (listed in Draft EIR Table 5.13-2 and the Final EIR Chapter 3) that are also within 3 miles of the Project site and are likely (due to location) to be used by residents of the proposed Project. This equals approximately 243.38 acres of existing parkland within three miles of the site, which equates to 5,094.49 acres of parkland per Project resident at full occupancy.

Based on a standard of 2 acres of public park and/or recreational space per 1,000 residents (Municipal Code Section 35-108), the proposed Project would require 4.2 acres of parkland to serve the new residents. The Project includes a total of 4.2 acres (183,363 square feet) of park and recreation area. Therefore, the Project would include the Municipal Code required park and/or recreational space.

Based on the existing amount of 243.38 acres of existing park and recreation facilities within 3 miles of the Project site, the recreation facilities that would be provided as part of the Project, and the number of residents at full capacity of the proposed Project, the Project is not anticipated to require the provision of new or physically altered park facilities in order to maintain acceptable service ratios.

In addition, Municipal Code Sections 35-108, 35-110, and 35-111 require that residential development fees be paid for the acquisition, construction, and renovation of park and recreation facilities prior to the issuance of a building permit for any construction which adds net residential units. Thus, the proposed Project would be required to pay park and recreation fees to "preserve an appropriate balance between the demand by residents for use of park and recreational facilities", as stated in Municipal Code Section 35-110. Therefore, impacts related to park and recreation service facilities would be less than significant.

Impact Finding: The Project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Draft EIR at p. 5.13-6).

Facts in Support of Findings: Based on the California State Parks information for the southern California Region, the anticipated number of Project residents at full occupancy (2,081 residents), the distance and type of recreational facilities near the Project site, it is anticipated that the Project would generate 348 additional park users two or more times per week, 287 additional park users about once per week, 429 additional park users once or twice per month, 508 additional park users several times a year, and 314 additional park users once or twice a year that would utilize the 245.38 acres of parks within 3 miles of the Project site.

Based on the existing amount of park and recreation facilities in the vicinity of the Project site, the recreation facilities that would be provided as part of the Project, and the number of residents all full capacity of the proposed Project, the Project is not anticipated to increase the use of existing parks and recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated.

In addition, as listed Park and Recreation Regulatory Setting Section, the Santa Ana Municipal Code, Section 35-108 requires that residential development fees be paid for the acquisition, construction, and renovation of park and recreation facilities. Also, Sections 35-108 and 35-111 requires that any person adding residential units shall pay the park and recreation fees prior to the issuance of a building permit. The Municipal Code describes that park and recreation fees are for the purpose of preserving an appropriate balance between the demand by residents for use of park and recreational facilities and the availability of such park and recreational facilities. Thus, by payment of the required park fees, the Project would provide funding to offset any increased usage at other park and recreation facilities within Santa Ana.

In addition, use of sports fields is largely by sports leagues that pay fees to the City for use of the facilities, which is used to fund maintenance and improvements related to use of the facilities. Any additional residents that are involved in sports leagues would provide this funding to reduce impacts. Overall, the proposed Project would not result in substantial physical deterioration of park and recreation facilities, and impacts would be less than significant.

Impact Finding: The Project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (Draft EIR at p. 5.13-7).

Facts in Support of Findings: The project includes recreational facilities. The impacts of development of the recreational amenities are considered part of the impacts of the proposed Project as a whole and are analyzed throughout the various sections of the EIR. For example, activities such as excavation, grading, and construction as required for the park and recreational components of this Project are analyzed in the Draft EIR Air Quality, Greenhouse Gas Emissions, Noise, and Transportation Sections.

In addition, while the Project would contribute park development fees pursuant to Municipal Code Sections 35-108, 35-110, and 35-111 to be used towards the future expansion or maintenance parks and recreational facilities, these fees are standard with every residential development, and the proposed Project would not require the construction or expansion of other recreational facilities that might have an adverse physical effect on the environment. As a result, impacts would be less than significant.

M. Transportation

Impact Finding: The Project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) (Final EIR 5.14, *Transportation*, at p. 5.14-31).

Facts in Support of Findings: As described in the Final EIR, a direct Project impact would occur if the Project generates a VMT/SP above 15 percent below the Countywide Average. The Project related VMT/SP is 5.14 and the Countywide Average VMT/SP is 14.71. Thus, the VMT/SP of the Project is 35 percent of the Countywide Average VMT/SP; and the Project would not generate VMT/SP above 15 percent below the Countywide Average. Thus, direct Project impacts related to VMT would be less than significant.

In addition, the City's screening criteria for VMT cumulative impacts, include project consistency with the RTP/SCS or results in an increase in VMT within the City. As shown on Final EIR Transportation Section Table 4.14-13, the Project results in a net decrease in VMT. Also, Table 5.14-14 shows that the Project's VMT/SP is approximately 22 percent lower than the cumulative VMT/SP for the City. Therefore, the Project would not result in a negative effect on VMT/SP at the citywide level, and cumulative impacts would be less than significant.

Impact Finding:
The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Draft EIR at p. 5.14-23).

Facts in Support of Findings: The Project includes development of mixed uses that include residential, retail/restaurant commercial, and open space recreation. The Project includes community type uses and does not include any incompatible uses, such as farm equipment. The proposed Project would be accessed from one driveway on Red Hill Avenue and two driveways on Warner Avenue that provide direct access to parking areas.

The Project would also not increase any hazards related to a design feature. All of the proposed improvements would be required to be installed in conformance with City design standards. The City's construction permitting process includes review Project site plans to ensure that no potentially hazardous transportation design features would be introduced by the Project. For example, sight distance at each Project driveway would be reviewed for conformance with City of Santa Ana sight distance standards at the time of permitting approvals for grading, landscape, onsite circulation construction, and street improvement plans. As a result, impacts related to vehicular circulation design features would be less than significant.

Impact Finding: The Project would not result in inadequate emergency access (Draft EIR at p. 5.14-23).

Facts in Support of Findings:

Construction:

The proposed construction activities, including equipment and supply staging and storage, would occur within and adjacent to the Project area and would not restrict access of emergency vehicles to the Project site or adjacent areas. The roadway improvements and installation of driveways that would be implemented during construction of the proposed Project could require the temporary closure of travel lanes, but full roadway closure and traffic detours are not expected to be necessary. However, construction activities may temporarily restrict vehicular traffic that could increase hazards. Therefore, the construction activities would be required to implement measures to facilitate the passage of persons and vehicles through/around any required temporary road restrictions, and ensure the safety of passage in accordance with Section 503 of the California Fire Code (Title 24, California Code of Regulations, Part 9) and the City of Santa Ana Fire Code included as Municipal Code Chapter 14, which would be ensured through the City's permitting process. Thus, implementation of the Project through the City's permitting process would ensure existing regulations are adhered to and would reduce potential construction related emergency access impacts to a less than significant level.

Operation

the Project includes one driveway on Red Hill Avenue and two driveways on Warner Avenue that provide direct access to parking areas. As described previously, these driveways would provide adequate and safe circulation to and from the Project site and would provide a several routes for emergency responders to access different portions of the Project site and surrounding areas.

Additionally, during operation of the Project, building tenants would be required to maintain adequate emergency access for emergency vehicles as required and verified by the City and the Orange County Fire Authority (OCFA) through operational permitting and inspections. Because the Project is required to comply with all applicable City codes, as verified by the City and OCFA potential impacts related to inadequate emergency access would be less than significant.

N. Tribal Cultural Resources

Impact Finding: The Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) (Draft EIR at p. 5.15-5).

Facts in Support of Findings: There are no sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources on the Project site. In accordance with SB 18 and AB 52, the City sent letters to 18 Native American representatives identified by NAHC, notifying them of the proposed Project. One California Native American tribe request for consultation, the Gabrieleño Band of Mission Indians – Kizh Nation. Mr. Andrew Salas provided oral information about the use of the Orange County area for Native American village sites and the City provided the history of uses and development of on the Project site, including the depth of previous and existing infrastructure and foundation systems on the site. Based on the consultation conducted, no TCRs were identified.

The Project site includes three modern industrial buildings that were developed in the early 1980s and do not involve tribal cultural resources. The site has a long history of ground disturbance from previous agricultural uses and development. Artificial fill was observed in geotechnical field explorations up to 7.5 feet below existing grade and previous excavation and recompaction ranged from 5 feet to 13 feet for development of the existing buildings. It is likely that the site disturbance included the undeveloped portion of the site at the corner of Red Hill and Warner Avenue. The extensive previous excavation, recompaction, and fill soils onsite have limited the potential of the site to contain tribal cultural resources. Also, the proposed Project would excavate onsite soils to a minimum of 5 feet below the bottom of the building foundations and 5 feet beyond the building perimeters. The depth of the excavation is within the previously disturbed soil depths, which further reduces the potential of the Project to result in impacts related to tribal cultural resources.

Overall, the Project site does not include resources that are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources; and due to the extent and depth of previous ground disturbances throughout the site, the potential for tribal cultural resources is limited. Therefore, Project impacts to tribal cultural resource that are listed or eligible for listing in the California Register of Historical Resources, or other register of historical resources would be less than significant.

O. Utilities and Service Systems

Water

Impact Finding: The Project would not require or result in the construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects (Draft EIR at p. 5.16-6).

Facts in Support of Findings: The proposed Project would install new water infrastructure on the Project site that would connect to the existing 12-inch water pipeline in Warner Avenue. The new onsite water system would convey water supplies to the proposed residences, commercial uses, and landscaping through plumbing/landscaping fixtures that are compliant with the CalGreen Plumbing Code for efficient use of water.

The proposed Project would continue to receive water supplies through the existing 12-inch water line located within the Red Hill Avenue rights-of-way that has the capacity to provide the increased water supplies needed to serve the proposed Project, and no extensions or expansions to the water pipelines that convey water to the Project site would be required. Redevelopment of the existing

onsite water distribution lines would only serve the proposed Project and would not provide water to any off-site areas.

The construction activities related to the onsite water infrastructure that would be needed to serve the proposed multi-family residential and commercial uses is included as part of the proposed Project and would not result in any physical environmental effects beyond those identified throughout the Draft EIR. Therefore, the proposed Project would not result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and impacts would be less than significant.

Impact Finding: The City would have sufficient water supplies available to serve the project and reasonably foreseeable development during normal, dry, and multiple dry years (Draft EIR at p. 5.16-7).

Facts in Support of Findings: As shown in Draft EIR Table 5.16-4, the proposed Project would result in a total demand of 269 AFY at full occupancy, which would be a 245.27 AFY increase in comparison to the water demand from the existing buildings that are included in the UWMP assumptions. This equates to an 8.1 percent of the anticipated increase in water demand between 2015 and 2040 of 3,028 AFY that is anticipated by the 2015 UWMP. Thus, the City would have water supplies available to serve the Project.

In addition, as shown in Draft EIR Table 5.16-2, the City's available supply, including groundwater and imported water, will meet projected demand that includes the proposed Project during normal, single dry and multiple dry years. Therefore, impacts related to water supplies from the proposed Project would be less than significant.

Wastewater

Impact Finding: The Project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Draft EIR at p. 5.16-11).

Facts in Support of Findings: The Project includes replacing approximately 367 feet of the existing 8-inch City sewer line in Warner Avenue, between the Project site and the Orange County Sanitation sewer line in Red Hill Avenue, with a 10-inch sewer. In addition, the Project would install a new onsite sewer system that would connect to off-site City of Santa Ana sewer facilities. Approximately half the Project site would discharge wastewater directly into a City-owned manhole located at the intersection of Warner Avenue and Red Hill Avenue. The other half of the Project site would discharge wastewater into the improved 10-inch sewer in Warner Avenue to the existing 42-inch sewer in Red Hill Avenue. Based on results of the sewer flow monitoring and the City's Design Criteria for wastewater generation rates, the sewer lines that would serve the Project site would have a peak flow half full capacity of 0.65 cfs which would is adequate capacity to accommodate the additional wastewater flows from the proposed Project.

The construction activities related to replacing 367 feet of 8-inch water line with 10-inch water line within the Warner Avenue right of way and installation of the onsite sewer infrastructure that would serve the proposed Project, is included as part of the proposed Project and would not result in any physical environmental effects beyond those identified throughout the Draft EIR. As the proposed Project includes facilities to serve the Project, it would not result in the need for construction of other

new wastewater facilities or expansions, the construction of which could cause significant environmental effects. Therefore, impacts would be less than significant.

Impact Finding: The Project would not result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments (Draft EIR at p. 5.16-11).

Facts in Support of Findings: The OCSD Reclamation Plant No. 1 has an additional capacity of 87 mgd, which would accommodate the increase in wastewater flow from full occupancy of the proposed Project that would generate 201,906 gpd. As a result, implementation of the proposed Project would not result in inadequate capacity of the wastewater treatment plant to serve the Project's demand in addition to existing service commitments, and impacts would be less than significant.

Drainage

Impact Finding: The Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Draft EIR at p. 5.16-13).

Facts in Support of Findings: The runoff within the Project site would be collected by roof drains, surface flow designed pavement, curbs, and area drains and conveyed to Modular Wetland System units that would be installed as part of the Project to retain, filter, and slowly discharge drainage. The Modular Wetland System units have been sized to treat runoff from the Design Capture Storm (85th percentile, 24-hour). Treated runoff from the Modular Wetland System units would be discharged from the flow controlling Modular Wetland System units to the existing 84-inch drain located within Red Hill Avenue. From there, flows would travel southeast and be temporarily detained in an existing flood control basin before entering the Barranca Channel, which discharges into San Diego Creek Reach 1, then the Upper Newport Bay, Lower Newport Bay, and finally to the Pacific Ocean at Balboa Beach.

Although the Project related runoff conditions (flow rates and durations) would increase from predevelopment conditions (shown in Draft EIR Table 5.15-5), the Project would manage the increased flow by the four Modular Wetland System units that have been designed to accommodate the increased volume. As a result, the proposed Project would not result in a need to expand or construct new off-site drainage systems and impacts to stormwater drainage systems would be less than significant.

Solid Waste

Impact Finding: The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (Draft EIR at p. 5.16-15).

Facts in Support of Findings:

Construction

The Project is estimated to generate approximately 460 tons of waste during demolition and additional waste during construction, which would occur over a 27-month period. However, Section 5.408.1 of the 2016 California Green Building Standards Code requires demolition and construction activities to recycle or reuse a minimum of 65 percent of the nonhazardous construction and demolition waste. Thus, the demolition and construction solid waste that would be disposed of at the landfill would be approximately 35 percent of the waste generated. Therefore, demolition

activities, which would generate the most solid waste would generate approximately 161 tons of solid waste. Demolition activities would occur over a 30 workday (6 week) period. This equates to approximately 5.4 tons of debris per day.

The Frank Bowerman Sanitary Landfill is permitted to accept 11,500 tons per day of solid waste. In September 2019, the maximum tonnage received was 9,967 tons. Thus, the facility had additional capacity of 1,533 tons per day (Calrecycle 2019). Therefore, the Frank Bowerman Sanitary Landfill would be able to accommodate the addition of 5.4 tons of waste per week during construction of the proposed Project.

Operation

Operation of the Project at buildout would generate approximately 1,137 tons of solid waste per year, at least 75 percent of which is required by California law to be recycled, which would reduce the volume of landfilled solid waste to approximately 284.25 tons per year, or 5.47 tons per week, as shown on Draft EIR Table 5.16-6.

As the Frank Bowerman Sanitary Landfill is permitted to accept 11,500 tons per day of solid waste, and in September 2019, the maximum tonnage received was 9,967 tons, the facility had additional capacity of 1,533 tons (Calrecycle 2019). Therefore, the Frank Bowerman Sanitary Landfill would be able to accommodate the addition of 5.47 tons of waste per week. Thus, the proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and the Project would not impair the attainment of solid waste reduction goals. Impacts related to landfill capacity would be less than significant.

Impact Finding: The Project would comply with federal, State, and local statutes and regulations related to solid waste (Draft EIR at p. 5.16-16).

Facts in Support of Findings: All solid waste-generating activities within the City is subject to the requirements set forth in Section 5.408.1 of the 2016 California Green Building Standards Code that requires demolition and construction activities to recycle or reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, and AB 341 that requires diversion of a minimum of 75 percent of operational solid waste. Implementation of the proposed Project would be consistent with all state regulations, as ensured through the City's development project permitting process. Therefore, the proposed Project would comply with all solid waste statute and regulations; and impacts would not occur.

SECTION III

IMPACTS MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT

The City hereby finds that mitigation measures have been identified in the EIR that would avoid or substantially lessen the following potentially significant environmental impacts to a less than significant level. The potentially significant impacts and the mitigation measures that would reduce them to a less than significant level are detailed in the EIR and summarized below.

A. Hazards and Hazardous Materials

Impact Finding: The Project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials (Draft EIR at p. 5.7-21).

Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect identified in the Draft EIR.

Facts in Support of Findings:

Construction:

The Phase I Environmental Site Assessment determined that asbestos-containing materials and lead-based paint may exist due to the date of construction of the existing buildings. Therefore, asbestos surveys and abatement would be required prior to demolition or renovation of the existing building pursuant to the existing South Coast Air Quality Management District (SCAQMD), Cal/OSHA, and the sections of the California Health and Safety Code, which are described above in the Regulatory Setting. These requirements were developed to protect human health and the environment from the hazards associated with exposure to lead based materials and airborne asbestos fibers. Compliance with these existing regulations, as ensured through the permitting process and included as PPP HAZ-1 and PPP HAZ-2, would reduce impacts related to routine transport and disposal of asbestos-containing materials and lead-based paint during construction activities to a less than significant level.

In addition, the Project site contains approximately 900 cubic yards of contaminated soil that would require excavation and disposal as part of excavation and grading activities. This includes approximately, 850 cubic yards of TPH contaminated soils (above residential screening levels) and 80 cubic yards of TPH-(diesel) contaminated soils. These contaminated soils would need to be excavated and removed during Project excavation and grading activities as required by DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the Orange County Health Care Agency (OCHCA). Due to the existence of the contaminated soils and excavation activities that would occur during Project construction, implementation of the proposed Project has the potential to result in a hazard to the public or environment.

As a result, Mitigation Measure HAZ-1 would be implemented to reduce the potential risks related to accidental release and exposure of people and the environment to the contaminated soils. Mitigation Measure HAZ-1 requires that a qualified consultant prepare a Soil Management Plan (SMP) to be used by construction workers to remove and dispose of the areas of TPH impacted soil. Mitigation Measure HAZ-1 requires excavation of contaminated soils be completed pursuant to existing DTSC and RWQCB requirements, soils sampling ensure all contaminated soils are removed, and that a certified hazardous waste hauler remove and transport all TPH impacted soil and other potentially hazardous materials per California Hazardous Waste Regulations to a landfill permitted by the state to accept hazardous materials. Excavated soil containing hazardous

substances would be classified as a hazardous waste if they exhibit the characteristics of ignitability, corrosivity, reactivity, or toxicity (CCR, Title 22, Division 4.5, Chapter 11, Article 3). The SMP would detail hazardous materials excavation and disposal methods and requirements pursuant to the regulation of Title 8 of the California Code of Regulations (CalOSHA) and Department of Toxic Substances Control (DTSC) that regulates the removal, transportation, and disposal of hazardous waste to protect human health and the environment. With implementation of Mitigation Measure HAZ-1 impacts related to hazards from contaminated soils would be less than significant.

Plans, Program and Policies:
PPP HAZ-1: SCAQMD Rule 1403. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that an asbestos survey has been conducted at all existing buildings located on the Project site. If asbestos is found, the Project applicant shall follow all procedural requirements and regulations of South Coast Air Quality Management District Rule 1403. Rule 1403 regulations require that the following actions be taken: notification of SCAQMD prior to construction activity, asbestos removal in accordance with prescribed procedures, placement of collected asbestos in leak-tight containers or wrapping, and proper disposal.

PPP HAZ-2: Lead. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that a lead-based paint survey has been conducted at all existing buildings located on the Project site. If lead-based paint is found, the Project applicant shall follow all procedural requirements and regulations for proper removal and disposal of the lead-based paint. Cal-OSHA has established limits of exposure to lead contained in dusts and fumes. Specifically, CCR Title 8, Section 1532.1 provides for exposure limits, exposure monitoring, and respiratory protection, and mandates good working practices by workers exposed to lead.

Mitigation Measures:
Mitigation Measure HAZ-1: Prior to issuance of a grading permit, a Soil Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant and shall detail procedures and protocols for excavation and disposal of onsite hazardous materials, including:

- A certified hazardous waste hauler shall remove all potentially hazardous soils. Excavation of contaminated soils shall be removed. In addition, sampling of soil shall be conducted during excavation to ensure that all contaminated soils are removed, and that residential Environmental Screening Levels (ESLs) for residential uses are not exceeded. Excavated materials shall be transported per California Hazardous Waste Regulations to a landfill permitted by the state to accept hazardous materials.
- Any subsurface materials exposed during construction activities that appear suspect of contamination, either from visual staining or suspect odors, shall require immediate cessation of excavation activities. Soils suspected of contamination shall be tested for potential contamination. If contamination is found to be present per the California Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB) ESLs for residential uses, it shall be transported and disposed of per California Hazardous Waste Regulations to an appropriately permitted landfill.
- A Health and Safety Plan (HSP) shall be prepared for each contractor that addresses potential safety and health hazards and includes the requirements and procedures for

employee protection. The HSP shall also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.

- All SMP measures shall be printed on the construction documents, contracts, and project plans prior to issuance of grading permits.

Impact Finding: The Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment (Draft EIR at p. 5.7-23).

Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect identified in the Draft EIR.

Facts in Support of Findings:

Construction:

Contaminated Soils. As described previously, the Project site contains approximately 900 cubic yards of contaminated soil that would require excavation and disposal pursuant to the requirements of the DTSC, California Integrated Waste Management Board, RWQCB, OCFA, and the OCHCA. Due to the existence of the contaminated soils and excavation activities that would occur during Project construction, implementation of the proposed Project has the potential to result in upset or accident conditions involving the release of hazardous materials into the environment.

As a result, Mitigation Measure Haz-1 requires a Soil Management Plan (SMP) to be prepared and used by construction workers to remove and dispose of the areas of TPH impacted soil. Mitigation Measure Haz-1 requires excavation of contaminated soils be completed pursuant to existing DTSC and RWQCB requirements, soils sampling ensure all contaminated soils are removed, and that a certified hazardous waste hauler remove and transport all TPH impacted soil and other potentially hazardous materials per California Hazardous Waste Regulations to a landfill permitted by the state to accept hazardous materials. With implementation of Mitigation Measure Haz-1 impacts related to hazards from contaminated soils would be less than significant.

Undocumented Hazardous Materials. The Project site has a long history of various uses that includes use and storage of hazardous materials. As a result, there is the potential for undocumented hazardous material to exist onsite. Excavated soil containing hazardous substances and hazardous building materials would be classified as a hazardous waste if they exhibit the characteristics of ignitability, corrosivity, reactivity, or toxicity (CCR, Title 22, Division 4.5, Chapter 11, Article 3). State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. These regulations are detailed previously and include, but are not limited to, the federal Resource Conservation and Recovery Act, the Occupational Safety and Health Act that is implemented by OSHA, and the Hazardous Materials Transportation Act. Additionally, the California Integrated Waste Management Board and the RWQCB specifically address management of hazardous materials and waste handling in their adopted regulations (CCR, Title 14 and CCR, Title 27). Furthermore, Mitigation Measure HAZ-1would reduce impacts related to other soil contamination, not identified previously. Thus, with implementation of existing regulations and Mitigation Measure HAZ-1, impacts related to upset or accident conditions involving the release of hazardous materials into the environment would be less than significant.

Mitigation Measures:
Mitigation Measure HAZ-1: Soil Management Plan (SMP). As listed previously.

B. Tribal Cultural Resources

Impact Finding: The Project would not cause a substantial adverse change in the significance of a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, that considers the significance of the resource to a California Native American tribe (Draft EIR at p. 5.15-6).

Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect identified in the Draft EIR.

Facts in Support of Findings: The Project site has been heavily disturbed to substantial depths. The proposed Project involves excavation; however, no substantial evidence exists that TCRs are present in the Project site. Although, no TCRs have been identified, during the SB 18/AB 52 consultation, the Gabrieleño Band of Mission Indians – Kizh Nation stated that the Project lies within its ancestral tribal territory within a potentially sensitive area. Therefore, to avoid potential adverse effects to tribal cultural resources, Mitigation Measure TCR-1 has been included to provide for Native American resource sensitivity training, monitoring, and to prescribe activities should any inadvertent discoveries of tribal cultural resources be unearthed by Project construction activities.

Additionally, California Health and Safety Code, Section 7050.5 requires that if human remains are discovered in the Project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation. If the coroner determines that the remains are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Therefore, with implementation of Mitigation Measure TCR-1 and the existing regulations, impacts to TCRs would be less than significant.

Mitigation Measures:
Mitigation Measure TCR-1: Native American Monitoring. Prior to the issuance of any permits for initial site clearing (such as pavement removal, grubbing, tree removals) or issuance of permits allowing ground-disturbing activities that cause excavation to depths greater than artificial fill (including as boring, grading, excavation, drilling, potholing or auguring, and trenching), the City of Santa Ana shall ensure that the project applicant/developer retain qualified Native American Monitor(s). The monitor(s) shall be approved by the tribal representatives of the Gabrieleno Band of Mission Indians - Kizh Nation and be present on-site during initial site clearing and construction that involves ground disturbing activities that cause excavation to depths greater than artificial fill identified herein. The monitor shall conduct a Native American Indian Sensitivity Training for construction personnel. The training session includes a handout and focus on how to identify Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered. The Native American monitor(s) shall complete monitoring logs on a daily basis, providing descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when grading and excavation activities of native soil (i.e., previously undisturbed) are completed, or when the tribal representatives and monitor have indicated that the site has a low potential for tribal cultural resources, whichever occurs first.

In the event that tribal cultural resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can also be evaluated by a qualified archaeologist in cooperation with a Native American monitor to determine if the potential resource meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)) and/or unique resource (Public Resources Code 21083.2(g)). Construction activities could continue in other areas. If the find is considered an "archeological resource" the archaeologist, in cooperation with a Native American monitor shall pursue either protection in place or recovery, salvage and treatment of the deposits. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. If unique a tribal cultural resource cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Project applicant's expense. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation in an established accredited professional repository.

SECTION IV

RESOLUTION REGARDING SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Public Resources Code section 21002 states that "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof."

Section 15364 of the State CEQA Guidelines defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

The City Council hereby finds that, despite the incorporation of feasible measures outlined in the Final EIR, the following impacts cannot be fully mitigated to a less than significant level. Despite these significant and unavoidable impacts, the City nevertheless approves the Project because of the benefits described in the Statement of Overriding Considerations included herein.

P. Air Quality

Impact Finding: The Project would result in a conflict with or obstruct implementation of the applicable air quality plan (Draft EIR at p. 5.2-14).

Facts in Support of Findings: The SCAQMD's 2016 AQMP is the applicable air quality plan for the proposed Project. Pursuant to Consistency Criterion No. 1, projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, because the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP that result in air quality emissions.

As detailed in Draft EIR Section 5.11, *Population and Housing*, the proposed 1,150 multi-family residential units at full occupancy would result in a population of approximately 2,081 residents and the proposed 80,000 square feet of commercial space would generate approximately 320 employees at full occupancy. This equates to a 1.5 percent increase in residential units within the City, and the estimated 2,081 residents at complete occupancy would be 0.62 percent of the City's population.

Based on SCAG's 2016 Integrated Growth Forecast, a 7.4 percent increase in growth throughout the County is anticipated to occur through 2040. Hence, the cumulative growth with implementation of the proposed Project would be consistent with the SCAG growth forecasts and population base. Development of the proposed Project, in combination with other development projects in the vicinity would result in a cumulative increase in population. However, the Project's portion of the cumulative increase in residential units (1,150) is limited at 2.39 percent. Thus, the proposed multi-family units would be within the SCAG projected growth. The housing added by the Project would also help to meet housing demands from projected employment growth in the Project vicinity, while maintaining a healthy vacancy rate.

The Project region is jobs-rich. The existing jobs-housing ratio is 2.06 in Santa Ana and is projected to be 2.13 in 2040. The proposed Project would reduce the jobs-housing ratio slightly to 2.05; and to 2.10 in 2040, as shown in the Draft EIR Table 5.11-8 in Section 5.11, *Population and Housing*. The balance of jobs and housing and the existing transit, bicycle, and pedestrian infrastructure adjacent to the Project site that is available for use would reduce vehicle miles traveled and the related air quality emissions, as employees

could easily travel to employment opportunities within the vicinity of the Project site, including areas within the Cities of Santa Ana, Tustin, and Irvine. Thus, the proposed Project would support AQMP objectives to reduce trips, promote infill/redevelopment, and balance jobs and housing, and would not conflict with implementation of the AQMP.

In addition, implementing redevelopment of the site, the Project would utilize existing infrastructure such as roadways, drainage, sewer and other infrastructure, and would be consistent with the SCAG objective to "Encourage patterns of urban development and land use that reduce costs in infrastructure construction and make better use of existing facilities." As a result, the proposed Project would comply with Consistency Criterion No. 1 listed above in the Methodology Section.

Regarding Consistency Criterion No. 2, which evaluates the potential of the proposed Project to increase the frequency or severity of existing air quality violations; an impact would occur if the long-term emissions associated with the proposed Project would exceed SCAQMD's regional significance thresholds for operation-phase emissions. As detailed below in Impact AQ-2, operation of the proposed Project would exceed the threshold of significance for emissions of VOCs and there are no feasible mitigation measures that would reduce VOC emissions to below the SCAQMD threshold. Therefore, the proposed Project would result in an impact related to Consistency Criterion No. 2. As a result, impacts related to consistency with the AQMP would be significant and unavoidable.

Impact Finding: Operation of the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (Draft EIR at p. 5.2-16).

Facts in Support of Findings: Implementation of the Project would result in long-term emissions of criteria air pollutants from area sources generated by the proposed commercial and residential uses, such as vehicular emissions, natural gas consumption, landscaping, applications of architectural coatings, and use of consumer products. The emissions from the proposed Project are primarily from vehicle trips. As described in Section 5.14, *Transportation*, the proposed Project is anticipated to generate 11,546 daily trips, with 534 a.m. peak hour trips and 604 p.m. peak hour trips. The operational emissions from the Project are provided in the Draft EIR Table 5.2-8, on page 5.2-17, which shows that emissions from operation of the proposed Project would exceed the threshold of significance for VOCs. The majority of VOC emissions would be derived from consumer products and mobile activity. Consumer products include cleaning supplies, kitchen aerosols, cosmetics and toiletries, the use of which cannot be controlled by the City. Likewise, vehicular emissions cannot be controlled by either the Project applicant or the City. There are no feasible mitigation measures that would reduce VOC emissions to below the SCAQMD threshold. Therefore, operational emissions of the Project would be significant and unavoidable.

Q. Greenhouse Gases

Impact Finding: The Project would generate greenhouse gas (GHG) emissions, either directly or indirectly, that would have a significant impact on the environment (Draft EIR at p. 5.6-10).

Facts in Support of Findings: The proposed Project would generate GHG emissions from vehicle trips, electricity and natural gas consumption, water and wastewater transport (the energy used to pump water), and solid waste generation. GHG emissions from electricity consumed by the

proposed Project would be generated off-site by fuel combustion at the electricity provider. GHG emissions from water transport are also indirect emissions resulting from the energy required to transport water from its source. GHG emissions from solid waste disposal is associated with the anaerobic breakdown of material. As shown in the Draft EIR Table 5.6-3, page 5.6-11, Section 5.6, *Greenhouse Gas Emissions*, the estimated increase in GHG emissions that would be generated from implementation of the proposed Project is estimated to be 9,861.60 $MTCO_2e$ per year.

This exceeds the SCAQMD Tier 3 screening threshold of 3,000 $MTCO_2e$. Therefore, additional analysis is provided based upon the direction of SCAQMD's Tier 4 thresholds through use of the City's CAP emissions targets and projected service population, which as detailed in Draft EIR Section 5.6.5, *Methodology*, identified a threshold of 3.16 $MTCO_2e$ per service population in the Project opening year if 2022.

The Draft EIR Section 5.11, *Population and Housing*, shows that the Project would result in 2,081 residents and 320 employees at full occupancy. This results in a service population of 2,401 (2,081 residents + 320 employees = 2,401 service population). The Project's net increase in GHG emissions of 9,861.60 $MTCO_2e$ per year divided by the service population of the Project would result in 4.10 $MTCO_2e$ annually per service population, which exceeds the threshold of 3.16 $MTCO_2e$ per service population.

Approximately 60 percent of the GHG emissions would be generated by Project mobile sources (vehicle trips). Neither the Project Applicant nor the City of Santa Ana can substantively or materially affect reductions in Project mobile-source emissions. However, the Project is an urban infill redevelopment that would provide mixed residential and commercial (retail/restaurant) uses. The site located near existing off-site employment, commercial, residential, and retail destinations and in proximity to existing public bus stops and freeways, which would result in reduced vehicle trips and Vehicle Miles Traveled (VMT) in comparison to a Project of similar size on land without close access to employment, service, and retail, destinations; in addition to public transit and freeways.

The California Air Pollution Control Officers Association (CAPCOA) has provided guidance for mitigating or reducing transportation related VMT from land use development projects within its guidance document titled *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010). The land use characteristics of the Project are consistent with the CAPCOA guidance related to a reduction of VMT:

- **Area Density:** CAPCOA identifies that increases in area density, measured in terms of persons, jobs, or dwelling units per unit area, reduces VMT associated with transportation, as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services (CAPCOA guidance measure LUT-1). According to CAPCOA, the reduction in VMT from increases in area density applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The urban infill/redevelopment Project would provide residential, retail/restaurant, and employment uses and is located near other employment opportunities, services, and retail commercial uses. The proposed Project would provide an increase in area residential density and an improvement to the jobs-housing balance. As detailed in Section 5.11, *Population and Housing*, the Project region has an existing and projected future imbalance between the number of jobs and housing units. Thus, per CAPCOA guidance, the

addition of residential units within the area would reduce VMT and the VMT-related GHG emissions.

- **Location Efficiency:** Location efficiency describes the location of a project relative to the type of urban landscape such as an urban area, compact infill, or suburban center. CAPCOA guidance measure LUT-2.22 describes that a reduction in VMT and the related GHG emissions occurs from development within urban areas that include residential, retail, office, industrial, mixed-uses, and transportation access. As described previously, the Project is located in an urban infill location and would provide residential units near employment, retail, and services. Additionally, the Project is located adjacent to the Orange County Transit Authority (OCTA) bus lines that runs along Red Hill Avenue and Warner Avenue that makes use of transit efficient. Thus, the location efficiently of the Project would provide for reduced VMT and the related GHG emissions.

Also, according to the CAPCOA guidance, factors that contribute to VMT reductions include pedestrian connectivity between the project site and off-site destinations. The Project would include onsite sidewalks that would connect to the existing offsite sidewalks and bicycle lanes exist in the Project vicinity. Both walking and bicycling to onsite or nearby destinations would reduce transportation energy use and the related GHG emissions. Therefore, although the Project Applicant and City cannot reduce GHG vehicular emissions, the Project is consistent with the CAPCOA guidance for mitigating or reducing transportation related VMT from land use development projects.

In addition, the Project incorporates various sustainable design features that would reduce GHG emissions, which include:

- A minimum of 94 electric vehicle charging stations.
- Installation of drought-tolerant plants for landscaping.
- Installation of water-efficient irrigation systems, such as weather-based and soil-moisture-based irrigation controllers and sensors, for landscaping according to the California Department of Water Resources Model Efficient Landscape Ordinance.
- Designing buildings to provide CALGreen Standards with Leadership in Energy and Environmental Design features for potential certification and would employ energy and water conservation measures in accordance with such standards. This includes design considerations related to the building envelope; heating, ventilating, and air conditioning; lighting; and power systems.
- Installation of landscaping in surface parking lots to reduce heat island effect. Trees would be selected and placed to provide canopy and shade for the parking lots.
- Implementation of a recycling program in order to meet a 75 percent minimum waste diversion goal.
- Utilization of construction materials and interior finish products with zero or low emissions to improve indoor air quality.
- Provision of adequate ventilation and high-efficiency in-duct filtration system.

- Use of low volatile organic compound paints and wallpapers.

Also, nonresidential buildings built with the 2019 Title 24/CalGreen standards are estimated to use approximately 30 percent less energy and residential buildings are estimated to use approximately 7 percent less energy compared to development under the 2016 standards. The reduction of energy use results in reduced GHG emissions. Compliance with Title 24 is enforced through the building permit process. The following Title 24 standards are applicable to the proposed Project and would reduce GHG emissions:

- Short-term bicycle parking. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.
- Long-term bicycle parking. For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space.
- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- Construction waste. A minimum 65 percent diversion of construction and demolition waste from landfills.
- Wastewater reduction. Each building shall reduce the generation of wastewater by either installing water-conserving fixtures or using non-potable water systems.
- Water use savings. 20 percent mandatory reduction of indoor water use.
- Water meters. Separate water meters for buildings in excess of 50,000 sf or buildings projected to consume more than 1,000 gallons per day.
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas.
- Materials pollution control. Utilize low pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.
- Building commissioning. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 sf to ensure that all are working at their maximum capacity according to their design efficiencies.

However, there are no feasible Project measures that would reduce vehicular emissions, and approximately 60 percent of the GHG emissions would be generated by Project mobile sources (vehicle trips). Thus, neither the Project Applicant nor the Lead Agency (City of Santa Ana) can substantively or materially affect reductions in Project mobile-source emissions. The Project would result in a net increase in GHG emissions of 9,861.60 $MTCO_2e$ per year, which would be 4.10 $MTCO_2e$ annually per service population. This would exceed the SCAQMD Tier 3 screening

threshold of 3,000 $MTCO_2e$ and exceed the SCAQMD Tier 4/City CAP threshold of 3.16 $MTCO_2e$ per service population. Therefore, impacts related to GHG emissions would be significant and unavoidable.

Impact Finding: The Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Draft EIR at p. 5.6-14).

Facts in Support of Findings: The proposed Project consists of an infill redevelopment project that would help to meet housing demands from projected growth in the region while helping to improve the jobs to housing balance (detailed in Draft EIR Section 5.11, *Population and Housing*), which has the potential to reduce GHG emissions from the reduction of vehicle miles traveled. The proposed Project provides for pedestrian infrastructure, such as sidewalks that connect to off-site sidewalks to promote non-vehicular transportation and reduce the vehicle miles traveled and related GHG emissions. In addition, the Project site is adjacent to existing bus routes and bicycle lanes. Providing a mixed-use development in such a location is consistent with the intent of the AB 32 Scoping Plan and SB 375, which is focused on changing land use patterns and improving transportation alternatives.

The proposed Project would be implemented pursuant to the 2019 CALGreen Building/Title 24 requirements, and provide new land uses in a sustainable manner. The City's administration of the Title 24 requirements includes review of proposed energy conservation measures during the permitting process, which ensures that all requirements are met. In complying with the 2019 Title 24 standards, the Project would be implementing regulations that reduce GHG emissions.

Also, the CARB Scoping Plans recommend strategies for implementation at the statewide level to meet the goals of AB 32 and SB 32. The proposed Project would be consistent with the applicable measures established in the 2008 CARB Scoping Plan, as shown in Draft EIR Table 5.6-4, page 5.6-14, Section 5.6, *Greenhouse Gas Emissions*. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Draft EIR Table 5.6-5, page 5.6-15, Section 5.6, *Greenhouse Gas Emissions* summarizes the Project's consistency with the 2017 Scoping Plan, which shows that the Project would not conflict with any of the provisions of the 2017 Scoping Plan.

The City of Santa Ana's CAP includes reduction measures that would help the City achieve its emissions reduction goal, which is consistent with the statewide goals identified. The proposed Project is consistent with City's CAP strategy of locating new mixed-use development within employment corridors to create a more optimal mix of land uses and reduce vehicle miles traveled. The proposed Project would be consistent with the relevant measures of the City's CAP as described in Draft EIR Table 5.6-6, page 5.6-19, Section 5.6, *Greenhouse Gas Emissions*.

However, as described previously, the GHG emissions from the Project would exceed the SCAQMD Tier 3 screening threshold of 3,000 $MTCO_2e$ and exceed the SCAQMD Tier 4/City CAP threshold of 3.16 $MTCO_2e$ per service population.

As described previously, approximately 60 percent of the GHG emissions would be generated by vehicle trips. Neither the Project Applicant nor the City of Santa Ana can substantively or materially reduce the vehicular-source GHG emissions. Thus, the Project would result in an exceedance of the CAP's emissions target and impacts would be significant and unavoidable.

R. Transportation

Impact Finding: The Project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (Draft EIR at p. 5.14-10).

Facts in Support of Findings:
In the Year 2040 plus Project traffic conditions the Project would result in a significant cumulative impact at the following three intersections, as detailed in Final EIR Transportation Section Table 5.14-10:

- Grand Avenue/Warner Avenue (#4) in the p.m. peak hour
- Red Hill Avenue/Barranca Parkway (#30) in the p.m. peak hour
- Red Hill Avenue/Alton Parkway (#32) in the p.m. peak hour

Improvements for impacted intersections have been identified, which would reduce the impacts to a less than significant level. However, improvements at the intersections of Red Hill Avenue/ Barranca Parkway (#30) and Red Hill Avenue/Alton Parkway (#32) cannot be guaranteed because they require approval and/or implementation by the City of Tustin or the City of Irvine. In addition, the improvement at the Grand Avenue/Warner Avenue (#4) is required as a result of a is a cumulative impact, as the intersection operates with unsatisfactory LOS in the baseline 2040 condition. The Project would be responsible for a fair share of the improvement; however, there is no currently planned improvement at the location, and it is unknown if the Grand Avenue/Warner Avenue improvement would be implemented by 2040. Therefore, implementation of the Project would result in a significant and unavoidable impact under the Year 2040 Plus Project condition at these three intersections.

SECTION V

RESOLUTION REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines requires that an EIR discuss "any significant irreversible environmental changes which would be involved in the proposed action should it be implemented." Generally, a project would result in significant irreversible environmental changes if one of the following scenarios is involved:

- The Project would involve a large commitment of nonrenewable resources.
- Irreversible damage can result from environmental accidents associated with the Project.
- The proposed consumption of resources is not justified (e.g., the Project results in the wasteful use of energy).

The Project would result in or contribute to the following irreversible environmental changes:

- Lands in the Project area that are currently developed with light industrial uses would be committed to multi-family residential and commercial retail uses once the proposed buildings are constructed. Secondary effects associated with this irreversible commitment of land resources include:
    - Changes in views associated with construction of the new buildings and associated development (Draft EIR Section 5.1, *Aesthetics*).
    - Increased traffic on area roadways (Draft EIR Section 5.14, *Transportation*).
    - Emissions of air pollutants associated with Project construction and operation (Draft EIR Section 5.2, *Air Quality*).
    - Consumption of non-renewable energy associated with construction and operation of the proposed Project due to the use of automobiles, lighting, heating and cooling systems, appliances, and the like (Draft EIR Section 5.4, *Energy*).
    - Increased ambient noise associated with an increase in activities and traffic from the Project (Draft EIR Section 5.10, *Noise*).
- Construction of the proposed Project as described in Draft EIR Section 3.0, *Project Description*, would require the use of energy produced from non-renewable resources and construction materials.

In regard to energy usage from the proposed Project, as demonstrated in the analyses contained in Draft EIR Section 5.4, *Energy*, the proposed Project would not involve wasteful or unjustifiable use of non-renewable resources, and conservation efforts would be enforced during construction and operation of proposed development. The proposed development would incorporate energy-generating and conserving project design features, including those required by the California Building Code, California Energy Code Title 24, which specify green building standards for new developments. In addition, as listed in Draft EIR Sections 3.0, *Project Description* and 5.4*, Energy*, the proposed Project includes project design features that result in additional energy-efficiency.

SECTION VI

RESOLUTION REGARDING GROWTH-INDUCING IMPACTS AND COMMITMENT OF RESOURCES

Section 15126.2(d) of the State CEQA Guidelines requires the EIR to address the growth-inducing impact of the Project. EIR Section 5.17 evaluates the potential for the proposed Project to affect economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Employment Related Growth

The Project site has been used Ricoh Electronics Inc. for light industrial uses that provide employment since its development in 1979 and 1981. The site was vacated by Ricoh in 2018 and the buildings are partially re-occupied and used for storage, electronics recycling, and as temporary housing for the homeless.

The proposed Project would redevelop the Project site to provide 1,150 multi-family residential units and 80,000 square feet of commercial retail space. As detailed in Section 5.11, *Population and Housing*, this is anticipated to generate approximately 320 employees at full occupancy, which would be 0.27 percent of the existing jobs within 2-miles of the Project site; and therefore, would not result in induced unplanned employment growth.

Infrastructure Obstacles to Growth

The proposed Project would redevelop the existing onsite infrastructure systems and provide an off-site sewer line improvement that would connect to the existing off-site systems that currently serve the Project site. The new infrastructure would not provide additional capacity beyond what is needed to serve the proposed Project. In addition, because the Project is within a developed area that is receiving services from existing infrastructure and would connect to the existing infrastructure, development of the proposed Project would not result in an expansion of overall capacity, extension of infrastructure, or provision of services in areas or an unserved area. Therefore, infrastructure improvements would not result in significant growth inducing impacts.

Land Development Regulation Obstacles to Growth

The proposed Project includes amendments to the General Plan and to the zoning code to allow for the redevelopment of the site to provide the proposed mixed-use development as opposed to the existing light industrial building uses. The Project proposes a General Plan land use designation amendment from PAO (Professional and Administrative Office) to District Center, which would allow specific development requirements for the proposed mixed uses. In addition, the Project includes a proposed zoning change from M-1 (Light Industrial) to a Specific Development designation, which would also provide specific development regulations for the mixed-use Project.

The proposed Project is redevelopment of an already developed area that has been used for urban uses since 1979 and is surrounded by urban development or areas planned for urban development. The proposed Project would involve a change to development regulations and would result in onsite residents and additional onsite employees. However, the zoning and land use changes are parcel specific and would not result in growth outside of the Project site, because the areas are either completely developed or within development land use plans. Changes to the Project site's land use and zoning designations would not result in removing an obstacle to growth within the Project vicinity.

In addition, SCAG policies concerning regional growth-inducement are included as part of Draft EIR Section 5.9, *Land Use and Planning*, and Draft EIR Section 5.11, *Population and Housing*. As described in those sections, the growth anticipated by SCAG's projections are consistent with the increases in population (2,081 residents) and employees (320 employees) anticipated at full capacity of the Project. Therefore, impacts related to growth from changes in existing regulations pertaining to land development would be less than significant.

Public Service Obstacles to Growth

The proposed Project is expected to incrementally increase the demand for fire protection and emergency response, police protection, and school services. However, as described in Draft EIR Section 5.12, *Public Services*, the proposed Project would not require development of additional facilities or expansion of existing facilities to maintain existing levels of service. Based on service ratios and build out projections, the proposed Project would not create a demand for services beyond the capacity of existing facilities. Therefore, an indirect growth inducing impact as a result of expanded or new public facilities that could support other development in addition to the proposed Project would not occur. The proposed Project would not have significant growth inducing consequences that would require the need to expand public services to maintain desired levels of service.

Other Activities Related to Growth

The proposed Project involves amendments to the City of Santa Ana General Plan and Zoning Ordinance, but those amendments are specific to the allowable land uses on the Project site itself. The proposed Project does not propose changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, or fire codes). The Project would comply with all applicable City plans, policies, and ordinances. In addition, Project features and mitigation measures have been identified within this EIR to ensure that the Project minimizes environmental impacts. The Project would not involve any precedent-setting action that could encourage and facilitate other activities that significantly affect the environment.

Impacts of Growth

All physical environmental effects from construction of development of the proposed Project has been analyzed in the Draft EIR. For example, activities such as excavation, grading, and construction as required for the proposed mixed uses were analyzed in the Draft EIR Sections 5.2, *Air Quality*, 5.7, *Hazards and Hazardous Materials*, and 5.10, *Noise*. Therefore, construction of the proposed Project has been analyzed in the EIR and would be adequately mitigated either through implementation of existing regulations and/or mitigation measures.

SECTION VII

RESOLUTION REGARDING ALTERNATIVES

The City of Santa Ana hereby declares that it has considered and rejected as infeasible the alternatives identified in the EIR and described below. Section 15126.6 of the State CEQA Guidelines requires an EIR to describe a range of reasonable alternatives to the Project, or to the location of the Project, which could feasibly achieve most of its basic objectives, but would avoid or substantially lessen any of the significant effects identified in the EIR analysis. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, an EIR must consider a reasonable range of alternatives that are potentially feasible; an EIR is not required to consider alternatives that are infeasible. In addition, an EIR should evaluate the comparative merits of the alternatives. Therefore, this section sets forth the potential alternatives to the Project analyzed in the EIR and evaluates them in light of the objectives of the Project, as required by CEQA.

Objectives

The following objectives have been identified in order to aid decision makers in their review of the proposed Project and its associated environmental impacts.

- Develop a mixed-use Project that constructs new multi-family residential units, which would help meet the region's demand for housing.
- Transform an underutilized site with an economically viable development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and Irvine Business Complex (IBC) and combines residential uses with community-serving retail near employment opportunities, freeway access, and transit.
- Redevelop existing land uses that would utilize existing infrastructure, including: water, sewer, arterial roadways, transit, and freeways; and provide non-vehicular (pedestrian and bicycle) circulation.
- Develop a mix of housing to assist the City in meeting its jobs/housing balance.
- Provide onsite uses that reduce vehicular miles traveled (VMT) by providing an internal pedestrian circulation system that links residential uses, recreation areas, and retail/commercial areas onsite.
- Implement the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Land Use Policies related to population and housing by providing additional housing near employment centers.

Alternatives

Key provisions of the State CEQA Guidelines relating to the alternatives analysis (Section 15126.6 et seq.) are summarized below:

- The discussion of alternatives shall focus on alternatives to the Project or its location that are capable of avoiding or substantially lessening any significant effects of the Project, even if these alternatives would impede to some degree the attainment of the Project objectives or would be more-costly.

- The "No Project" alternative shall be evaluated along with its impact. The "No Project" analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the Project is not approved.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the Project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

Rationale for Selecting Potentially Feasible Alternatives

The alternatives must include a no-project alternative and a range of reasonable alternatives to the Project if those reasonable alternatives would attain most of the Project objectives while substantially lessening the potentially significant project impacts. The range of alternatives discussed in an EIR is governed by a "rule of reason," which the State CEQA Guidelines Section 15126.6(f)(3) defines as:

> . . . set[ting] forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the Project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in the State CEQA Guidelines Section 15126.6(f)([1]) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the Project proponent could reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose effects could not be reasonably identified, and whose implementation is remote or speculative.

For purposes of this analysis, the Project alternatives are evaluated to determine the extent to which they attain the basic Project objectives, while significantly lessening any significant effects of the Project.

Alternatives Analysis

The goal for evaluating any alternatives is to identify ways to avoid or lessen the significant environmental effects resulting from implementation of the proposed Project, while attaining most of the Project objectives. The City of Santa Ana has included the following 3 alternatives for consideration:

- No Project/No Build Alternative
- Reduced Project Alternative

- Build Out of the Existing Land Use and Zoning Alternative

Alternatives Not Selected for Analysis

Alternative Site: An alternative site was considered and eliminated from further consideration. CEQA specifies that the key question regarding alternative site consideration is "whether any of the significant effects of the Project would be avoided or substantially lessened by putting the Project at another location." In addition, an alternative site need not be considered when implementation is "remote and speculative," such as when the alternative site is beyond the control of a Project proponent.

The Project Applicant is the owner of the Project site, and the Project site building is underutilized in the existing condition. The Project objectives are to redevelop an existing underutilized parcel and implement new multi-family housing near employment, provide development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and IBC and utilize existing infrastructure, all of which are consistent with the opportunities provided by the Project site. In addition, due to the urban and built out nature of the City, development of 1,150 multi-family residential units and 80,000 square feet of commercial uses on another 14.58-acre site at a different location would likely require demolition of existing structures, require similar mitigation, and have similar impacts as the proposed Project. CEQA specifies that the key question regarding alternative site consideration is "whether any of the significant effects of the project would be avoided or substantially lessened by putting the project at another location." Given the size and nature of the proposed Project and the Project objectives, it would be infeasible to develop and operate the Project on an alternative site with fewer environmental impacts. Therefore, the Alternative Site Alternative was rejected from further consideration.

Description of Alternatives

Alternative 1: No Project/No Build Alternative

Pursuant to Section 15126.6(e)(2) of the CEQA Guidelines, the EIR is required to "discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Therefore, under this alternative, no development would occur on the Project site and it would remain in its existing condition with three existing buildings with a total 212,121 square feet. The Project site is located within a completely developed and highly used urban area, near freeways and transit, and contains three existing useable structures. Therefore, it is not reasonable to assume that the Project site would remain underutilized in the long-term. Thus, in the No Project/No Build condition it is reasonably expected that all of the 212,121 square feet of industrial building space would be re-occupied. Hence, this alternative compares impacts of the proposed Project with re-occupation at full capacity of the three existing industrial buildings

Alternative 2 – Reduced Project Alternative

Under this alternative, a reduction in the number of residential units and commercial square footage would be built, which would result in increased setbacks and reduced building heights. Pursuant to discussion with City planning staff, it was determined that a reasonable decrease in developed on the Project site is 30 percent of each unit type and a 30 percent reduction in commercial retail

space resulting in 345 fewer residential units and 24,000 square feet less of commercial space. Like the proposed Project, 17 percent of the units would be studios, 52 percent would be one-bedroom units, and 29 percent would be 2-bedroom units. This alternative would develop and operate 805 multi-family residential units and 56,000 square feet of retail and restaurant commercial uses.

Reducing these units from the proposed Project would eliminate 100 units from each of the three proposed mixed use buildings and 45 units from the residential only building, which would reduce the height of the three six-story mixed use buildings by two stories and reduce the height of the one five-story building by one story. Thus, each of the mixed-use and residential buildings would be four-stories in height under the Reduced Project Alternative.

To support the reduced Project under this alternative parking spaces would be provided at the same rate as the proposed Project of 1.7 spaces per residential unit and 5 spaces per 1,000 square feet of commercial space within a two four-level parking structures and two five-level parking structures, which would each be two levels lower than the proposed Project. The 24,000 square foot reduction in commercial space would occur from reducing the Phase 1 commercial square footage from 40,000 square feet to 20,000 square feet and from reducing the Phase 3 commercial square footage from 20,000 square feet to 16,000 square feet.

Under the Reduced Project Alternative, the recreation amenities would also be reduced by 30 percent; thus, approximately 122,189 square feet of exterior open space recreation area and approximately 5,606 square feet of indoor amenities would be provided by this alternative.

Like the proposed Project, this alternative would require a General Plan Amendment from the existing land use designation of PAO (Professional and Administrative Office) to District Center (DC), and a Zone change from M-1 (Light Industrial) to a Specific Development (SD) designation

Alternative 3 – Build Out of the Existing Land Use and Zoning Alternative

The Project site has a General Plan Land Use designation of Professional and Administrative Office (PAO) with a designated Floor Area Ratio (FAR) of 0.5 and is zoned Light Industrial (M-1). Under this alternative, the Project site would be redeveloped for a new light industrial business park as allowed by the existing General Plan Land Use designation and the City's Zoning Code Sections 41-472 through 41-483. The Project site has a zoning designation of Light Industrial (M-1), which permits uses such as: warehousing, distribution, manufacture, assembly, and storage. The M-1 zone allows buildings up to 3-stories or 35-feet in height.

At the allowable 0.5 FAR, the 14.58-acre site would provide for approximately 317,552 square feet of light industrial building space and building heights of up to 35-feet. These buildings would require approximately 635 parking spaces (per Municipal Code Section 41-1390 requirement of 2 spaces per 1,000 square feet). The industrial buildings would be surrounded by drought tolerant ornamental landscaping.

Under this alternative, the existing onsite development would be demolished, removed, and replaced to provide new building structures that would be developed pursuant to current building requirements, such as energy efficient power systems, drought tolerant landscaping, storm water filtration, and other Low Impact Development (LID) requirements.

Evaluation of Alternatives

Alternative 1 – No Project/No Build Alternative

The No Project/No Build Alternative would avoid the significant and unavoidable air quality, greenhouse gas, and transportation impacts that would occur from the Project and all of the potential construction impacts. Additionally, operational impacts would be reduced and mitigation measures would not be required, which include measures related to hazards and hazardous materials, transportation, and tribal cultural resources. However, the environmental benefits of the Project would also not be realized, such as improvements to storm water quality, removal of contaminated soils, improvements to the jobs/housing balance, and the potential to reduce vehicle miles traveled. The No Project/No Build Alternative would not install storm water filtration features in accordance with DAMP and LID design guidelines that would filter and slow the volume and rate of runoff; the contaminated soils would remain onsite; and this alternative would provide for the projected employment growth but would not improve the jobs to housing balance within the region and could generate more vehicle miles traveled.

The No Project/ No Build Alternative would not meet any of the Project objectives. The site would not be redeveloped to provide housing to help meet the region's demand for housing, would not provide a development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and IBC, would not develop housing to assist the City in meeting its jobs/housing balance, would not provide onsite uses that reduce VMT, and would not implement SCAG RTP/SCS policies related to providing additional housing near employment centers. Overall, this alternative would not meet any of the objectives of the proposed Project

Finding: The City of Santa Ana finds that the No Project/No Build Alternative is infeasible based on several economic and social factors. The site would not be redeveloped to provide development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and IBC, would not develop housing to assist the City in meeting its jobs/housing balance, would not provide onsite uses that reduce VMT, and would not implement SCAG RTP/SCS policies related to providing additional housing near employment centers. Overall, the No Project/No Build Alternative fails to meet any of the Project objectives (Draft EIR at p. 6-12) and is rejected on that basis.

Alternative 2 – Reduced Project Alternative

The Reduced Project Alternative would result in 3,955 fewer daily vehicular trips than the proposed Project. The reduction in vehicular emissions and consumer products from this alternative would reduce operational air quality impacts to a less than significant level. However, significant and unavoidable impacts related to greenhouse gas emissions and transportation would continue to occur from implementation of this alternative. Additionally, the mitigation required for implementation of the proposed Project would continue to be required for the Reduced Project Alternative to reduce impacts related to hazards and hazardous materials and tribal cultural resources to a less than significant level. Overall, although the volume of impacts would be less by the Reduced Project Alternative in comparison to the proposed Project, the Reduced Project Alternative would not eliminate all of the significant and unavoidable impacts of the proposed Project or eliminate the need for mitigation. Furthermore, the Reduced Project Alternative would result in a reduced beneficial impact. Providing fewer multi-family units and less commercial space on the Project site would result in fewer opportunities to improve the jobs-housing balance as fewer residents would have the potential to travel to local employment opportunities.

The Reduced Project Alternative would meet the Project objectives, but not to the same extent as the proposed Project. The site would be redeveloped to provide housing to help meet the region's demand for housing, would provide a development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and IBC. However, fewer residential units and less commercial space would be provided and a reduced improvement to the jobs-housing balance and VMT would occur. Additionally, the alternative would result in less implementation of SCAG RTP/SCS policies related to providing additional housing near employment centers. Overall, this alternative would meet the objectives of the proposed Project, but not to the same extent as the proposed Project.

Finding: The City of Santa Ana finds that the Reduced Project Alternative is infeasible based several economic and social factors. A key consideration for the City is to develop housing to assist the City in meeting its jobs/housing balance, which would be less under this alternative than the proposed Project. Under the Reduced Project Alternative fewer residential units and less commercial space would be provided and a reduced improvement to the jobs-housing balance and VMT would occur. Additionally, the alternative would result in less implementation of SCAG RTP/SCS policies related to providing additional housing near employment centers. In addition, the Reduced Project Alternative would not eliminate all of the significant and unavoidable impacts of the proposed Project or eliminate the need for mitigation. Thus, the Reduced Project Alternative would not achieve the Project objectives to the same extent as the proposed Project, would continue to result in significant and unavoidable impacts, and would continue to require mitigation. The Reduced Project Alternative is rejected on that basis.

Alternative 3 – Build Out of the Existing Land Use and Zoning Alternative

The Build Out of the Existing Land Use and Zoning Alternative would result in 9,559 fewer daily vehicular trips than the proposed Project. The reduction in vehicular trips from this alternative would reduce the proposed Project's significant and unavoidable operational air quality emissions and transportation/traffic impacts to a less than significant level. However, significant and unavoidable impacts related to greenhouse gas emissions would continue to occur from implementation of this alternative. Additionally, the mitigation required for hazards and hazardous materials and tribal cultural resources for the proposed Project would continue to be required for the Build Out of the Existing Land Use and Zoning Alternative.

Overall, although the volume of impacts would be less by the Build Out of the Existing Land Use and Zoning Alternative in comparison to the proposed Project, the Build Out of the Existing Land Use and Zoning Alternative would not eliminate all of the significant and unavoidable impacts of the proposed Project or eliminate the need for mitigation. Furthermore, the Build Out of the Existing Land Use and Zoning Alternative would result in a reduced beneficial impact, as it would not provide multi-family units on the Project site; and therefore, would not improve the jobs-housing balance.

The Build Out of the Existing Land Use and Zoning Alternative would only meet one Project objective, to redevelop existing land uses that would utilize existing infrastructure, including: water, sewer, arterial roadways, transit, and freeways; and provide non-vehicular (pedestrian and bicycle) circulation. The site would not be redeveloped with new housing near existing employment centers, to meet the regions demand for housing or be developed consistent with the redevelopment in the Tustin Legacy Specific Plan area or within the IBC. It would not promote an improved jobs/housing balance and would not meet the related SCAG RTP/SCS land use objectives.

Finding: The City of Santa Ana finds that the Build Out of the Existing Land Use and Zoning Alternative is infeasible based several economic and social factors. A key consideration for the City

is to develop housing to assist the City in meeting its jobs/housing balance, which would not occur under this alternative. In addition, this alternative would not provide a development consistent with the Tustin Legacy Specific Plan and IBC, it would not provide an improvement to VMT, and it would not implement SCAG RTP/SCS policies related to providing additional housing near employment centers. Thus, the Build Out of the Existing Land Use and Zoning Alternative would not achieve the Project objectives to the same extent as the proposed Project. The Build Out of the Existing Land Use and Zoning Alternative is rejected on that basis.

Environmentally Superior Alternative

Section 15126.6(e)(2) of the CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives.

The Build Out of the Existing Land Use and Zoning Alternative would reduce the Project's significant and unavoidable operational air quality and transportation/traffic impacts to a less than significant level, would implement the existing General Plan land use and zoning designations for the Project site, and would not require a General Plan amendment or zoning change.

However, this alternative would continue to require mitigation related to contaminated soils onsite and tribal cultural resources; and would continue to result in significant and unavoidable impacts related to GHG emissions. Therefore, although the volume of impacts would be less by the Build Out of the Existing Land Use and Zoning Alternative in comparison to the proposed Project, the Build Out of the Existing Land Use and Zoning Alternative would not eliminate all of the significant and unavoidable impacts of the proposed Project or eliminate the need for mitigation. In addition, it would not implement the SCAG policies to the same degree as the proposed Project, because this alternative would not locate new housing near existing jobs and reduce the jobs-housing ratio or the corresponding reduction in vehicle miles traveled.

In addition, the Build Out of the Existing Land Use and Zoning Alternative would not meet many of the Project objectives. The site would not be redeveloped with new housing near existing employment centers, to meet the regions demand for housing or be developed consistent with the redevelopment in the Tustin Legacy Specific Plan area or within the IBC. It would not promote an improved jobs/housing balance and would not meet the related SCAG RTP/SCS land use objectives.

CEQA does not require the City of Santa Ana to choose the environmentally superior alternative. Instead, CEQA requires the City to consider environmentally superior alternatives, weigh those considerations against the environmental impacts of the proposed Project, and make findings that the benefits of those considerations outweigh the harm. Based on the considerations described herein, the City of Santa Ana finds that the Build Out of the Existing Land Use and Zoning Alternative is infeasible based on these economic and social factors.

VIII. STATEMENT OF OVERRIDING CONSIDERATIONS

Introduction

The City of Santa Ana is the Lead Agency under CEQA for preparation, review and certification of the EIR for The Bowery Mixed-Use Project (Project). As the Lead Agency, the City is also responsible for determining the potential environmental impacts of the proposed action and which of those impacts are significant, and which can be mitigated through imposition of mitigation measures to avoid or minimize those impacts to a level of less than significant. CEQA then requires the Lead Agency to balance the benefits of a proposed action against its significant unavoidable adverse environmental impacts in determining whether or not to approve the proposed Project. In making this determination the City is guided by CEQA Guidelines Section 15093, *Statement of Overriding Considerations*, which states:

(a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposal (sic) project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."

(b) When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.

(c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.

In addition, Public Resources Code Section 21081(b) requires that where a public agency finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in an EIR and thereby leave significant unavoidable effects, the public agency must also find that overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects of the project.

Pursuant to Public Resources Code Section 21081(b) and the State CEQA Guidelines Section 15093, the City has balanced the benefits of the proposed Project against the unavoidable adverse impacts associated with the Project and has adopted all feasible mitigation measures with respect to these impacts. The City also has examined alternatives to the proposed Project, none of which both meet the Project objectives and is environmentally preferable to the proposed Project for the reasons discussed in the Findings and Facts in Support of Findings.

The City of Santa Ana, as the Lead Agency for this Project, and having reviewed the EIR for the Bowery Mixed-Use Project, and reviewed all written materials within the City's public record and heard all oral testimony presented at public hearings, adopts this Statement of Overriding Considerations, which has balanced the benefits of the Project against its significant unavoidable adverse environmental impacts in reaching its decision to approve the Project.

Overriding Considerations

The City, after balancing the specific economic, legal, social, technological, and other benefits of the Project, has determined that the unavoidable adverse environmental impacts identified above may be considered acceptable due to the following specific considerations which outweigh the unavoidable, adverse environmental impacts of the Project, each of which standing alone is sufficient to support approval of the Project, in accordance with CEQA Section 21081(b) and CEQA Guideline Section 15093. The specific economic, legal, social, technological or other benefits of the Project are as follows:

- The Project implements capital investment through construction of new buildings and offsite infrastructure improvements to enhance the City's economic and fiscal viability pursuant to the City of Santa Ana Strategic Plan.
- The Project improves the jobs-housing balance, providing a beneficial effect of providing multi-family housing in a jobs-rich area so that employees can easily travel to employment opportunities.
- The Project results in a potential reduction of vehicle miles traveled and the related traffic congestion, air quality, and greenhouse gas emissions compared with potential uses under the existing land use designation through the provision of housing and building space for commercial and restaurant uses near existing office uses and other sources of employment, and by improving the jobs-housing balance.
- The Project provides additional housing to support the regionally forecasted increase in economic activities and employment increases.
- The Project transforms an underutilized site with an economically viable development consistent with other regional redevelopment in the Tustin Legacy Specific Plan and Irvine Business Complex (IBC) and combines residential uses with community-serving commercial uses near employment opportunities, freeway access, and transit.
- The Project implements the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Land Use Policies related to population and housing by providing additional housing near employment centers.
- Consistent with the General Plan and City of Santa Ana Strategic Plan, the Project facilitates the economic development of the City by creating an expanded employment base by creating building space for multiple businesses, providing new diverse employment opportunities and attracting new businesses by locating residences, which will house future costumers for the businesses.
- The Project will redevelop a site that has buildings and improvements that are tailored to a specific tenant which no longer needs the site or buildings. The existing buildings and improvements would have limited demand in the current condition and would not result in the benefits of the capital investment the Project will bring.
- The Economic and Fiscal Analysis (2019) prepared for the Project determined that due to greater construction costs and scale, the estimated one-time construction economic impacts the Project ($498 million) to the City of Santa Ana is greater than the impact of the construction of a typical industrial building allowed under the current land use and zoning ($76 million). This is particularly important during this COVID-19 pandemic when significant economic impacts are severely impacting cities, businesses and jobs.

- The Economic and Fiscal Analysis determined that the Project could generate more than double the estimated net annual revenue to the City compared with a typical industrial building allowed under the current land use and zoning.
- The Project creates a high quality, master planned mixed-use development that will attract an array of businesses and provide a variety of employment and housing opportunities and creates a larger annual net fiscal surplus compared to build out of the existing Land Use and Zoning designations.

SECTION IX

RESOLUTION REGARDING CERTIFICATION OF THE EIR

The City of Santa Ana finds that it has reviewed and considered the Final EIR in evaluating the proposed Project, that the Final EIR is an accurate and objective statement that fully complies with CEQA, State CEQA Guidelines and that the Final EIR reflects the independent judgment of the City.

The City of Santa Ana declares that no new significant information as defined by State CEQA Guidelines, section 15088.5 has been received by the City after circulation of the Draft EIR that would require recirculation.

The City of Santa Ana certifies the EIR based on the entirety of the record of proceedings, including but not limited to the following findings and conclusions:

Findings:
The following significant environmental impacts have been identified in the EIR and will require mitigation as set forth in Section IV of this Resolution but cannot be mitigated to a level of insignificance: air quality (Project-related and cumulative), greenhouse gas (cumulative), and transportation (cumulative).

Conclusions:

1. Except as to those impacts stated above relating to air quality, greenhouse gas, and transportation, all significant environmental impacts from the implementation of the proposed Project have been identified in the EIR and, with implementation of the mitigation measures identified, will be mitigated to a level of insignificance.

2. Other alternatives to the proposed Project, which could potentially achieve the basic objectives of the proposed Project, have been considered and rejected in favor of the proposed Project.

3. Environmental, economic, social and other considerations and benefits derived from the development of the proposed Project override and make infeasible any alternatives to the proposed Project or further mitigation measures beyond those incorporated into the proposed Project.

SECTION X

RESOLUTION ADOPTING A MITIGATION MONITORING AND REPORTING PLAN

Pursuant to Public Resources Code section 21081.6, the City of Santa Ana hereby adopts the Mitigation Monitoring and Reporting Plan attached to this Resolution as Exhibit A. In the event of any inconsistencies between the mitigation measures as set forth herein and the Mitigation Monitoring and Reporting Plan, the Mitigation Monitoring and Reporting Plan shall control.

SECTION XI

RESOLUTION REGARDING CONTENTS AND CUSTODIAN OF RECORDS

The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Santa Ana Planning Division Counter. The custodian for these records is the City of Santa Ana. This information is provided in compliance with Public Resources Code section 21081.6.

The record of proceedings for the City's decision on the Project consists of the following documents, at a minimum:

1. The NOP and all other public notices issued by the City in conjunction with the Project;
2. All comments submitted by agencies or members of the public during the 45-day comment periods on the Draft EIR;
3. The Final EIR for the Bowery Mixed-Use Project, including comments received on the Draft EIR, responses to those comments, and technical appendices;
4. The Mitigation Monitoring and Reporting Plan for the Project;
5. All findings, resolutions and ordinances adopted by the City in connection with the Bowery Mixed-Use Project, and all documents cited or referred to therein;
6. All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by the City, consultants to the City, or responsible or trustee agencies with respect to the City's compliance with the requirements of CEQA and with respect to the City's action on the Bowery Mixed-Use Project;
7. All documents submitted to the City by other public agencies or members of the public in connection with the Bowery Mixed-Use Project up though Project approval. Matters of common knowledge to the City, including, but not limited to Federal, State, and local laws and regulations;
8. Any documents expressly cited or referenced in these findings, in addition to those cited above; and
9. Any other materials required for the record of proceedings by Public Resources Code section 21167.6, subdivision (e).

The following location is where review of the record may be performed:

City of Santa Ana, Planning Division Counter
20 Civic Center Plaza, M-20
Santa Ana, CA 92701

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TABLE 4-1: MITIGATION MONITORING AND REPORTING PROGRAM
THE BOWERY MIXED-USE PROJECT EIR

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
AIR QUALITY			
Plan, Program, or Policy PPP AQ-1: SCAQMD Rule 403. The following measures shall be incorporated into construction plans and specifications as implementation of SCAQMD Rule 403: o All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions. o The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day. o The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.	In Construction Plans and Specifications. Prior to Demolition and Construction Permits	City of Santa Ana Building Safety Division	
Plan, Program, or Policy PPP AQ-2: SCAQMD Rule 1113. The following measure shall be incorporated into construction plans and specifications as implementation of SCAQMD Rule 1113. The Project shall only use "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113.	In Construction Plans and Specifications. Prior to Construction Permits	City of Santa Ana Building Safety Division	
Plan, Program, or Policy PPP AQ-3: SCAQMD Rule 445. The following measure shall be incorporated into construction plans and specifications as implementation of SCAQMD Rule 445. Wood burning stoves and fireplaces shall not be included or used in the new development.	In Construction Plans and Specifications. Prior to Construction Permits	City of Santa Ana Building Safety Division	
GEOLOGY AND SOILS			
Plan, Program, or Policy PPP GEO-1: CBC Compliance. The Project is required to comply with the California Building Standards Code (CBC) as included in the City's Municipal Code as Chapter 8, Article 2, Division 1, to preclude significant adverse effects associated with seismic and soils hazards.	In Construction Plans and Specifications. Prior to Construction Permits	City of Santa Ana Building Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
As part of CBC compliance, CBC related and geologist and/or civil engineer specifications for the proposed Project shall be incorporated into grading plans and building specifications as a condition of construction permit approval.			
HAZARDS AND HAZARDOUS MATERIALS			
Plan, Program, or Policy PPP HAZ-1: SCAQMD Rule 1403. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that an asbestos survey has been conducted at all existing buildings located on the Project site. If asbestos is found, the Project applicant shall follow all procedural requirements and regulations of South Coast Air Quality Management District Rule 1403. Rule 1403 regulations require that the following actions be taken: notification of SCAQMD prior to construction activity, asbestos removal in accordance with prescribed procedures, placement of collected asbestos in leak-tight containers or wrapping, and proper disposal.	In Construction Plans and Specifications. Prior to Demolition Permits	City of Santa Ana Building Safety Division	
Plan, Program, or Policy PPP HAZ-1: Lead. Prior to issuance of demolition permits, the Project applicant shall submit verification to the City Building and Safety Division that a lead-based paint survey has been conducted at all existing buildings located on the Project site. If lead-based paint is found, the Project applicant shall follow all procedural requirements and regulations for proper removal and disposal of the lead-based paint. Cal-OSHA has established limits of exposure to lead contained in dusts and fumes. Specifically, CCR Title 8, Section 1532.1 provides for exposure limits, exposure monitoring, and respiratory protection, and mandates good working practices by workers exposed to lead.	In Construction Plans and Specifications. Prior to Demolition Permits	City of Santa Ana Building Safety Division	
Mitigation Measure HAZ-1: Prior to issuance of a grading permit, a Soil Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant and shall detail procedures and protocols for excavation and disposal of onsite hazardous materials, including: • A certified hazardous waste hauler shall remove all potentially hazardous soils. Excavation of contaminated soils shall be removed. In addition, sampling of soil shall be conducted during excavation to ensure that all contaminated soils are removed, and that residential Environmental Screening Levels (ESLs) for residential uses are not	In Construction Plans and Specifications. Prior to Construction Permits	City of Santa Ana Building Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
exceeded. Excavated materials shall be transported per California Hazardous Waste Regulations to a landfill permitted by the state to accept hazardous materials. • Any subsurface materials exposed during construction activities that appear suspect of contamination, either from visual staining or suspect odors, shall require immediate cessation of excavation activities. Soils suspected of contamination shall be tested for potential contamination. If contamination is found to be present per the California Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB) ESLs for residential uses, it shall be transported and disposed of per California Hazardous Waste Regulations to an appropriately permitted landfill. • A Health and Safety Plan (HSP) shall be prepared for each contractor that addresses potential safety and health hazards and includes the requirements and procedures for employee protection. The HSP shall also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction. • All SMP measures shall be printed on the construction documents, contracts, and project plans prior to issuance of grading permits.			
HYDROLOGY AND WATER QUALITY			
Plan, Program, or Policy WQ-1: NPDES/SWPPP. Prior to issuance of any grading or demolition permits, the applicant shall provide the City Building and Safety Division evidence of compliance with the NPDES (National Pollutant Discharge Elimination System) requirement to obtain a construction permit from the State Water Resource Control Board (SWRCB). The permit requirement applies to grading and construction sites of one acre or larger. The Project applicant/proponent shall comply by submitting a Notice of Intent (NOI) and by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) and a monitoring program and reporting plan for the construction site.	In Construction Plans and Specifications. Prior to Demolition, Grading, and Construction Permits	City of Santa Ana Building Safety Division	
PPP WQ-2: WQMP. Prior to the approval of the Grading Plan and issuance of Grading Permits a completed Water Quality Management Plan (WQMP) shall be submitted to and approved by the City Building and Safety Division.	In Construction Plans and Specifications. Prior to	City of Santa Ana Building Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
The WQMP shall identify all Post-Construction, Site Design. Source Control, and Treatment Control Best Management Practices (BMPs) that will be incorporated into the development project in order to minimize the adverse effects on receiving waters.	Grading and Construction Permits		
TRANSPORTATION			
Mitigation Measure TR-1: Grand Avenue/Warner Avenue (#4) (Santa Ana): Prior to granting certificate of occupancy for the last unit, the Project Applicant shall have an executed agreement with the City of Santa Ana to require payment of a fair share contribution to the improvement to add an eastbound protected right-turn overlap phase and prohibit northbound U-turns at the intersection of Grand Avenue/Warner Avenue.	Prior to certificate of occupancy for the last unit	City of Santa Ana Planning Division, Public Works, and Building Safety Division	
Mitigation Measure TR-2: Red Hill Avenue/Barranca Parkway (#30) (Santa Ana/Tustin/Irvine): Prior to granting certificate of occupancy for the last unit, the Project Applicant shall provide the City of Santa Ana proof of an executed agreement with the Cities of Tustin and Irvine requiring payment of the full cost or implementation of an additional westbound protected right-turn overlap phase and to prohibit southbound U-turns. The installation of this improvement is subject to the approval of the Cities of Tustin and Irvine.	Prior to certificate of occupancy for the last unit	City of Santa Ana Planning Division, Public Works, and Building Safety Division	
Mitigation Measure TR-3: Red Hill Avenue/Alton Parkway (#32) (Santa Ana/Irvine): Prior to granting certificate of occupancy for the last unit, the Project Applicant shall provide the City of Santa Ana proof of an executed agreement with the City of Irvine requiring payment of a fair share contribution to the improvement to add a westbound protected right-turn overlap phase and to prohibit southbound U-turns. The installation of this improvement is subject to the approval of the City of Irvine.	Prior to certificate of occupancy for the last unit	City of Santa Ana Planning Division, Public Works, and Building Safety Division	
TRIBAL CULTURAL RESOURCES			
Mitigation Measure TCR-1: Native American Monitoring. Prior to the issuance of any permits for initial site clearing (such as pavement removal, grubbing, tree removals) or issuance of permits allowing ground-disturbing activities that cause excavation to depths greater than artificial fill (including as boring, grading, excavation, drilling, potholing or auguring, and trenching), the City of Santa Ana shall ensure that the project applicant/developer retain qualified Native American Monitor(s). The monitor(s) shall be approved by the tribal representatives of the Gabrieleno Band of Mission Indians - Kizh	In Construction Plans and Specifications. Prior to Demolition, Grading, and Construction Permits	City of Santa Ana Planning Division and Building Safety Division	

Standard Condition/ Plan, Program, Policy / Mitigation Measure	Timing	Responsible for Ensuring Compliance / Verification	Date Completed and Initials
Nation or any other requesting Tribe or Nation and be present on-site during initial site clearing and construction that involves ground disturbing activities that cause excavation to depths greater than artificial fill identified herein. The monitor shall conduct a Native American Indian Sensitivity Training for construction personnel. The training session includes a handout and focus on how to identify Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered. The Native American monitor(s) shall complete monitoring logs on a daily basis, providing descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when grading and excavation activities of native soil (i.e., previously undisturbed) are completed, or when the tribal representatives and monitor have indicated that the site has a low potential for tribal cultural resources, whichever occurs first. In the event that tribal cultural resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can also be evaluated by a qualified archaeologist in cooperation with a Native American monitor to determine if the potential resource meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)) and/or unique resource (Public Resources Code 21083.2(g)). Construction activities could continue in other areas. If the find is considered an "archeological resource" the archaeologist, in cooperation with a Native American monitor shall pursue either protection in place or recovery, salvage and treatment of the deposits. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. If unique a tribal cultural resource cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Project applicant's expense. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation in an established accredited professional repository.			

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EIR No. 2020-01, GPA No. 2020-02, & AA No. 2020-01, "The Bowery"

2300, 2310, and 2320 South Redhill Avenue

The Final EIR and Technical Appendices are available online at:

https://www.santa-ana.org/pb/planning-division/major-planning-projects-and-monthly-development-project-reports/bowery

Physical copies are also available for viewing by appointment only. Please contact PlanningDepartment@santa-ana.org before visiting the Planning Division public counter located at:

20 Civic Center Plaza, Santa Ana, CA 92701

Exhibit C to Exhibit 1 – Link to EIR

EXHIBIT 2

2 - 485

RESOLUTION NO. 2020-xx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA APPROVING GENERAL PLAN AMENDMENT NO. 2020-02 AMENDING THE LAND USE ELEMENT TO DISTRICT CENTER FOR THE PROPERTY LOCATED AT 2300, 2310, AND 2320 SOUTH REDHILL AVENUE

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

WHEREAS, Article 5 of Chapter 3 of Division 1 of Title 7 (commencing with Section 65300) of the Government Code requires the City to prepare and adopt a comprehensive, long-term general plan for the physical development of the City; and

WHEREAS, on February 2, 1998, the City of Santa Ana adopted the Land Use Element of the General Plan, which has since been amended from time to time; and

WHEREAS, Jeremy Ogulnick, representing Arrimus Capital ("Applicant"), seeks to develop The Bowery Mixed-Use Commercial and Residential Project ("proposed Project"), on a 14.69-acre site at 2300, 2310, and 2320 South Redhill Avenue in Santa Ana, California ("Project Site"); and

WHEREAS, during the City's entitlement and environmental review process, and in response to comments and concerns raised by the City and public, the Applicant has proposed the subject mixed-use Project; and

WHEREAS, the Project as currently proposed entails, among other things, (1) demolition of the existing three (3) structures on the Project Site; (2) redevelopment of the Project Site with a commercial and residential mixed-use development consisting of up to 80,000 square feet leasable commercial area, 1,100 residential units, 2,600 onsite parking spaces, and onsite landscaping and amenities; (3) approval of General Plan Amendment (GPA) No. 2020-02, which would change the Project Site's existing land use designation of Professional & Administration Office (PAO) to District Center (DC); and (4) approval of Amendment Application (AA) No. 2020-01, which would change the zoning of the Project Site from Light Industrial (M-1) to Specific Development No. 96 (SD-96) designation; and

WHEREAS, the requested General Plan Amendment would change the General Plan land use designation of the property from Professional and Administrative Office (PAO) to District Center (DC) and to update text portions of the

City's Land Use Element to reflect this change in order to allow for development of the mixed-use commercial and residential Project; and

WHEREAS, Environmental Impact Report No. 2020-01 (State Clearinghouse/SCH No. 2019080011) for the proposed Project was circulated between January 3, 2020 and February 18, 2020; and

WHEREAS, the Environmental Impact Report analyzed the impacts related to the proposed amendment to the General Plan Land Use Element; and

WHEREAS, on September 24, 2019, the City invited recognized Native American tribes to engage in consultation regarding the proposed General Plan Amendment pursuant to Government Code Section 65352.3; and

WHEREAS, on October 1, 2019, the City received a request for consultation from the Gabrieleno Band of Mission Indians-Kizh Nation and a conference call between the City and Chairman Salas occurred on October 30, 2019 during which the history of uses and development of the Project Site and the depth of previous and existing infrastructure on the site was discussed. Chairman Salas did not respond to the City with any information or evidence pertaining to Tribal Cultural Resources; and

WHEREAS, during the public comment period, a Planning Commission work-study session was held on February 10, 2020 where staff presented the proposed Project and described the Draft EIR; and

WHEREAS, on May 11, 2020, the Planning Commission conducted a duly noticed public hearing to consider the EIR and General Plan Amendment No. 2020-02 and Amendment Application No. 2020-01. After hearing all relevant testimony from staff, the public and the City's consultant team, the Planning Commission voted to recommend that the City Council certify the EIR and adopt the findings, the statement of overriding considerations and the mitigation monitoring and reporting program and approve the Project; and

WHEREAS, the "EIR" consists of the Final EIR and its attachments and appendices, as well as the Draft EIR and its attachments and appendices (as modified by the Final EIR); and

WHEREAS, on May 21, 2020, the City gave public notice of a City Council public hearing for consideration of Environmental Impact Report No. 2020-01 (State Clearinghouse No. 2019080011) by advertising in the Orange County Register, a newspaper of general circulation, and by mailing to owners of property and residents within 500 feet of the Project; and

WHEREAS, June 2, 2020, the City Council conducted a duly noticed public hearing to consider the EIR, General Plan Amendment No. 2020-02, and Amendment Application No. 2020-01 and at which hearing members of the public were afforded an

opportunity to comment upon Environmental Impact Report No. 2020-01. After hearing all relevant testimony from staff, the public and the City's consultant team, the City Council voted to certify the EIR, adopt the findings, the statement of overriding considerations and the mitigation monitoring and reporting program and approve the Project.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA ANA DOES RESOLVE, DETERMINE, FIND, AND ORDER AS FOLLOWS:

Section 2. CALIFORNIA ENVIRONMENTAL QUALITY ACT: The City Council has reviewed and certified Environmental Impact Report No. 2020-01, adopted the Mitigation Monitoring and Reporting Program (MMRP) and Statement of Overriding Consideration for the proposed Project, including this General Plan Amendment No. 2020-02.

Section 3. GENERAL PLAN AMENDMENT: The General Plan Amendment consists of amendments to the Land Use Element and text updates, as shown in Exhibit A, attached hereto and incorporated herein by reference.

Section 4. LOCATION OF DOCUMENTS: The General Plan Amendment, Environmental Impact Report and all supporting documents are online, and on file and available for public review at Santa Ana City Hall, 20 Civic Center Plaza, Santa Ana, California 92702.

Section 5. GENERAL PLAN CONSISTENCY: The City Council hereby finds that the proposed General Plan Amendment is compatible with the objectives, policies, and general plan land use programs specified in the General Plan for the City of Santa Ana in that:

A. The City of Santa Ana has officially adopted a General Plan.

B. The land uses authorized by the General Plan Amendment, and the General Plan Amendment itself, are compatible with the objectives, policies, general land uses, and programs specified in the General Plan, for the following reasons:

i. The existing General Plan land use designation for the site is Professional and Administrative Office (PAO), which allows business and professional offices uses with a floor area ratio of 1.5. In order to facilitate the construction of a multi-family housing project with a maximum floor area ratio of 2.1, the general plan land use designation is proposed to be changed to District Center (DC), which permits high intensity, mixed-use urban villages and pedestrian-oriented experiences that support mid- to high-rise office centers, commercial activity, and cultural activities with floor area ratios ranging from 0.5 to 5.0. Focusing growth within District Centers and along major corridors

reduces the pressure for growth in low density residential neighborhoods.

ii. The proposed Project will support several goals/objectives and policies of the General Plan.

Housing Element (HE) Goal 2: to create diversity of quality housing, affordability levels, and living experiences that accommodate Santa Ana's residents and workforce of all household types, income levels, and age groups to foster an inclusive community.

HE Policy 2.2 District Centers. Create high intensity, mixed-use urban villages and pedestrian-oriented experiences that support the mid- to high-rise office centers, commercial activity, and cultural activities in the varied District Centers.

HE Policy 2.4 to facilitate diverse types, prices and sizes of housing.

Housing Element (HE) Goal 4: to provide adequate rental and ownership housing opportunities and supportive services.

The Project will provide 1,100 rental housing units. The amendment will expand the District Center designation and provide a mixed-use commercial and residential community in a regional setting consisting of other mixed-use developments nearby in the cities of Santa Ana, Tustin, and Irvine.

Land Use (LU) Element Goal 1: to promote a balance of land uses to address basic community needs.

LU Policy 1.2 Maintain and foster a variety of residential land uses in the City.

LU Policy 4.3 Support land uses which provide community and regional economic and service benefits.

LU Policy 4.4 Encourage the development of projects which promote the City's image as a regional activity center.

LU Policy 5.5 Encourage development which is compatible with, and supportive of surrounding land uses.

LU Policy 5.7 Anticipate that the intensity of new development will not exceed available infrastructure capacity.

Land Use (LU) Element Goal 6: to reduce residential overcrowding to promote public health and safety.

The Project is located proximate to existing transportation infrastructure

such as the Costa Mesa (SR-55) Freeway, which provides vehicular access to the region; and, the Orange County Transportation Agency bus routes along Redhill Avenue which connects to the Santa Ana Regional Transportation Center.

Redhill and Warner Avenues, both major urban corridors with cultural, educational, employment and retail destinations such as the Tustin Legacy, Irvine Business Complex, John Wayne Airport (SNA), beaches, Interstates 5 and 405, and the Tustin District, front the project site. Therefore, the mixed-use development would be within close proximity to major employment centers and retail establishments. The Project will also provide an additional housing option for those seeking housing within the jobs rich southeastern area of the City. The multi-storied development will complement the nearby mid-rise office buildings located Redhill Avenue. Although the density will be higher than the adjacent industrial properties, the mixed-use development is consistent with the uses to the east and south.

Urban Design (UD) Element, Goal 1: to improve the physical appearance of the City through development of districts that project a sense of place, positive community image, and quality environment.

UD Policy 1.1. New development and redevelopment must have the highest quality design, materials, finishes and construction.

UD Policy 1.11 Visual and physical links between districts, nodes, and significant sites, landmarks and other points of interest, are to be provided in all public and private projects.

The mixed-use commercial and residential buildings are of high quality design and include high quality materials such as stone veneer, brick veneers, metal panels, and canopies. The buildings are designed with courtyards and landscaped areas to reduce the mass of the buildings. The Project has street frontage on Redhill Avenue which is identified as a minor path in the General Plan and supports the Freeway Corporate District (No. 31) described in the Urban Design Element of the General Plan. The new development will include public art and convey a sense of place and contribute to the urban image for the City along a street corridor that includes regional, local and cultural landmarks. The development will be in scale with the buildings in the area to the east and south in the cities of Santa Ana, Tustin, and Irvine. In addition, the Urban Design Element of the General Plan identifies the site as being near a Gateway at Dyer Road and the SR-55 Freeway; the Project promotes elements of a Gateway by developing the site with a building with attractive architectural features, projecting a positive image for the City of Santa Ana.

C. The proposed General Plan Amendment will not adversely affect the public health, safety, and welfare in that the General Plan Amendment will not result in incompatible land uses on adjacent properties, inconsistencies with any General Plan goals or policies, or adverse impacts to the environment.

Section 6. INDEMNIFICATION. The Applicant shall indemnify, protect, defend and hold the City and/or any of its officials, officers, employees, agents, departments, agencies, authorized volunteers, and instrumentalities thereof, harmless from any and all claims, demands, lawsuits, writs of mandamus, and other and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to arbitrations, mediations, and such other procedures), judgments, orders, and decisions (collectively "Actions"), brought against the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, any action of, or any permit or approval issued by the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City) for or concerning the Project, whether such Actions are brought under the Ralph M. Brown Act, California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure sections 1085 or 1094.5, or any other federal, state or local constitution, statute, law, ordinance, charter, rule, regulation, or any decision of a court of competent jurisdiction. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that Applicant shall reimburse the City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the Applicant of any Action brought and City shall cooperate with Applicant in the defense of the Action.

Section 7. CITY COUNCIL ACTION: The City Council hereby takes the following action:

1. The City Council approves General Plan Amendment No. 2020-02 as set forth in Exhibit A, attached hereto and incorporated herein by reference, subject to compliance with the Mitigation Monitoring and Reporting Program, and upon satisfaction of the conditions set forth below:

   A. Subject to compliance with the Mitigation Monitoring and Reporting Program, the Land Use Element map and text shall be amended to read as set forth in Exhibit A, attached hereto and incorporated herein by reference.

   B. The General Plan Amendment shall not take effect unless and until Environmental Impact Report No. 2020-01 is certified and Amendment Application No. 2020-02 is approved by the City Council.

Section 8. EXECUTION OF RESOLUTION. The Mayor shall sign this Resolution and the Clerk of the Council shall attest and certify to the adoption thereof.

ADOPTED this ____ day of_____, 2020.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho
City Attorney

By:_____
Lisa Storck
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, DAISY GOMEZ, Clerk of the Council, do hereby attest to and certify the attached Resolution No. 2020-xx to be the original resolution adopted by the City Council of the City of Santa Ana on June 2, 2020.

Date: _____

_____
Daisy Gomez, Clerk of the Council
City of Santa Ana

City of Santa Ana General Plan

Land Use Element

1998

City of Santa Ana

Planning Division

Adopted

February 2, 1998
(Reformatted January 2010)

The following is a chronology of the approved general plan amendments that have been incorporated into this document since the comprehensive update of the General Plan Land Use Element adopted by the Santa Ana City Council February 2, 1998 (GPA 1997-05):

GPA 2020-02 (Pending)
GPA 2020-01 (April 21, 2020)
GPA 2018-04 (December 31, 2019)
GPA 2019-02 (October 1, 2019)
GPA 2019-01 (June 4, 2019)
GPA 2017-03 (June 4, 2019)
GPA 2018-05 (December 4, 2018)
GPA 2018-03 (September 18, 2018)
GPA 2018-02 (May 15, 2018)
GPA 2015-01 (May 15, 2018)
GPA 2017-02 (December 19,2017)
GPA 2017-01 (June 20, 2017)
GPA 2016-03 (February 21, 2017)
GPA 2016-02 (May 17, 2016)
GPA 2016-01 (April 19, 2016)
GPA 2015-03 (February 2, 2016)
GPA 2014-02 (October 21, 2014)
GPA 2014-01 (June 3, 2014)
GPA 2011-03 (March 19, 2012)
GPA 2011-02 (June 6, 2011)
GPA 2010-01 (June 7, 2010)
GPA 2008-02 (July 20, 2009)
GPA 2007-03 (May 18, 2009)
GPA 2004-03 (February 2, 2009)
GPA 2008-01 (May 5, 2008)
GPA 2007-02 (June 18, 2007)
GPA 2007-01 (March 19, 2007)
GPA 2006-01 (October 2, 2006)
GPA 2005-01 (December 5, 2005)
GPA 2005-02 (October 17, 2005)
GPA 2004-01 (April 5, 2005, as passed by the voters of Santa Ana)
GPA 2004-04 (July 19, 2004)
GPA 2004-06 (July 6, 2004)
GPA 2003-02 (June 16, 2003)
GPA 2003-01 (February 18, 2003)
GPA 2002-01 (September 3, 2002)
GPA 2002-03 (August 19, 2002)
GPA 2001-03 (February 19, 2002)
GPA 2001-02 (January 7, 2002)
GPA 2000-09 (May 7, 2001)
GPA 2000-08 (February 5, 2001)
GPA 2000-03 (December 4, 2000)
GPA 2000-02 (November 20, 2000)
GPA 1999-02 (October 18, 1999)
GPA 1999-01 (August 16, 1999)
GPA 1998-04 (October 5, 1998)
GPA 1998-05 (September 21, 1998)
GPA 1998-01 (May 4, 1998)

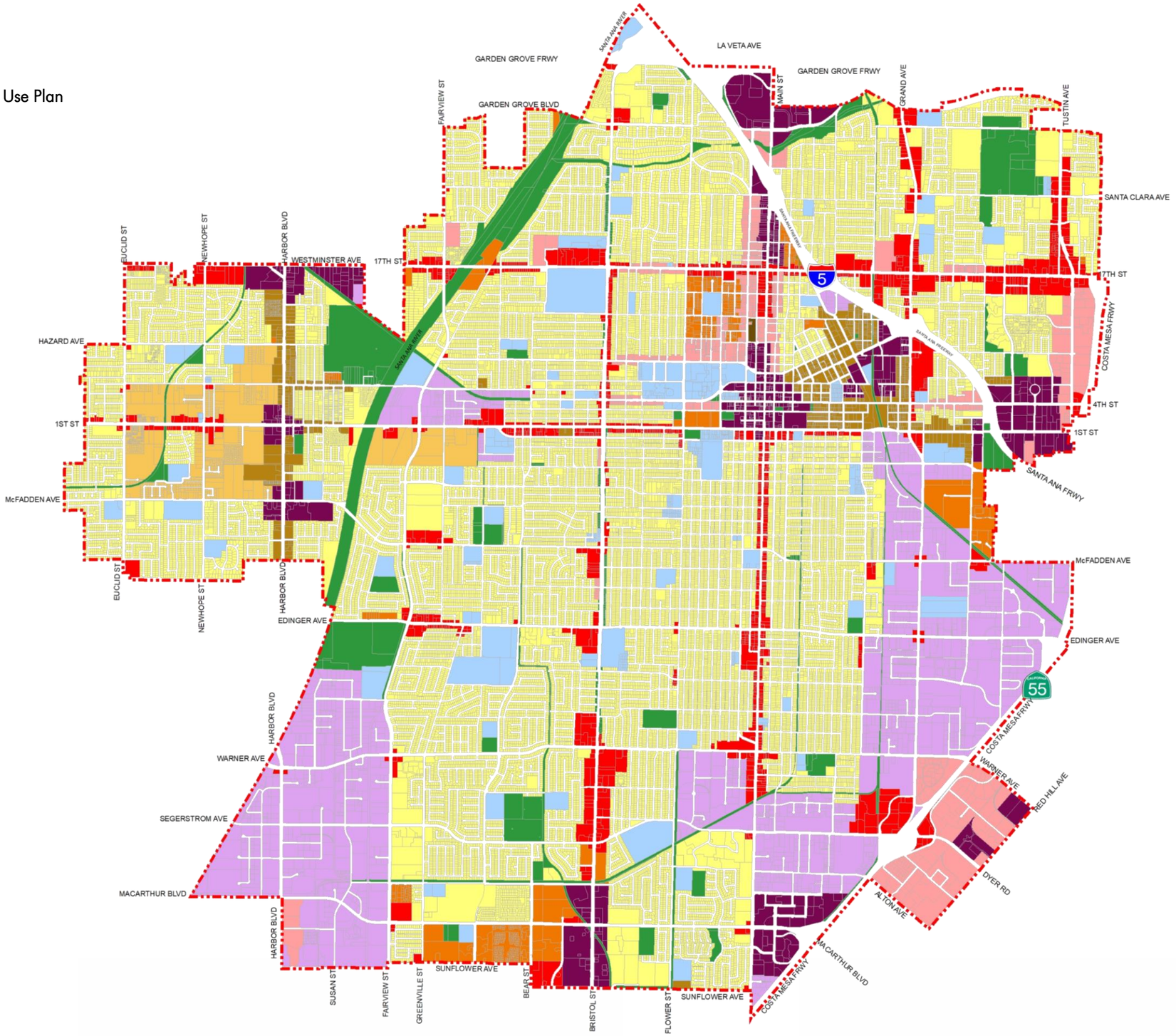
Center, Bowery District Center, and Urban Neighborhood areas. To encourage a dynamic mixture of residential, office and commercial uses, within these areas both building intensity and residential density is based on floor area ratio and zoning development standards. In calculating either the allowable floor area or the allowable residential density, it is the City's policy to not allow upward rounding. The Land Use Plan is illustrated in Exhibit 2. Additional information concerning the Land Use Plan and the land use designations is provided in Table 1 (Land Use Development Intensity Standards), and in the Appendix.

Table 1
Development Intensity Standards

Land Use Designation	*Density/Intensity Standards (du/acre - FAR)*[1]
Residential Land Use Designations	
Low Density Residential (LR-7)	7 du/acre
Low-Medium Density Residential (LMR-11)	11 du/acre
Medium Density Residential (MR-15)	15 du/acre
Mixed Use Land Use Designations	
District Center[2](DC)	
Other District Center (Midtown, MacArthur Place, etc.)	90 du/acre and FAR 1.0-2.0
Bowery District Center	FAR 2.06
Heritage District Center	FAR 1.7
Downtown District Center	FAR 3.0
Metro East District Center	FAR 3.0
Transit Village District Center	FAR 5.0
Harbor Corridor District Center	FAR 5.0
One Broadway Plaza District Center (OBPDC) [3]	FAR 2.9
Urban Neighborhood	
Transit Zoning Code Area/ Segerstrom, First, Fifth & 17th Corridor	FAR 0.5-1.80
Harbor Corridor	FAR 3.0
Metro East	FAR 0.75-1.5
Commercial Land Use Designations [4]	
Professional and Administrative Office (PAO)	FAR 0.5-1.0
General Commercial (GC)	FAR 0.5-1.0
Industrial Land Use Designations	
Industrial (IND)	FAR 0.45
Other Land use Designations	
Institutional (INS)	FAR 0.5
Open Space (O)	FAR 0.2

Notes:
[1] The intensity standards shown refer to the theoretical maximum amount of development permitted for each land use designation (du-dwelling units; FAR-floor area ratio). Development must also adhere to zoning regulations, and/or specific plan requirements.
[2] The District Center and Urban Neighborhood land use designations permit both residential and non-residential development.
[3] One Broadway Plaza District Center land use designation permits residential, office, restaurant and ancillary retail for a master planned development.
[4] Commercial intensities may vary. Baseline FAR is 0.5. Specific areas allowing greater intensities are indicated in Exhibit A-3. *Refer to Appendix for description of Land Use designations.

Exhibit 2 Land Use Plan



CITY OF SANTA ANA GENERAL PLAN

Land Use Designations

- LR-7 (Low Density Residential)
- LMR-11 (Low-Medium Density Residential)
- MR-15 (Medium Density Residential)
- UN (Urban Neighborhood)
- GC (General Commercial)
- IND (Industrial)
- INS (Institutional)
- O (Open Space)
- DC (District Center)
- PAO (Professional & Administration Office)
- OBPDC (One Broadway Plaza District Ctr.)

Land Use Plan

Exhibit 2

Pending - May 2020

Land Use Element

LAND USE PLAN IMPLEMENTATION

To effectively achieve the broad range of goals outlined for the City's future growth and development, a variety of plans, programs, and regulations must be relied upon. This section of the Element discusses these tools, and how they correlate with implementation of the City's land use goals.

DEVELOPMENT INTENSITY STANDARDS

Table A-1 summarizes the development intensity standard for each of the General Plan designations, and provides land use distribution by acreage for the land use. The intensity standards for the categories permitting residential development are expressed in density, measured in "units per acre," or floor area ratio and zoning development standards in the case of certain Mixed Use land use designations. The intensity standards for non-residential development are expressed as "floor area ratio" or FAR. The FAR concept is illustrated in Exhibit A-3. The intensity standards in concert with the zoning and development standards regulate the massing, form and building size.

Table A-1
Development Intensity Standards

Land Use	*Density/Intensity Standards*
Residential Land Use Designations	
Low Density	7 du/acre
Low-Medium Density	11 du/acre
Medium Density	15 du/acre
Mixed Use Land Use Designations	
District Center	
Other District Centers (Midtown, etc.)	90 du/acre and FAR 1.0-2.0
Bowery District Center	FAR 2.06
Heritage District Center	FAR 1.7
Downtown District Center	FAR 3.0
Metro East District Center	FAR 3.0
Transit Village District Center	FAR 5.0
Harbor Corridor District Center	FAR 5.0
One Broadway Plaza District Center	FAR 2.9
Urban Neighborhood	
Transit Zoning Code Area/ Segerstrom, First, Fifth & 17th Corridor	FAR 0.5-1.80
Harbor Corridor	FAR 3.0
Metro East	FAR 0.75-1.5
Commercial Land Use Designations	
Professional/Admin. Office	FAR 0.5-1.0
General Commercial	FAR 0.5-1.0
Industrial Land Use Designations	
Industrial	FAR 0.45
Other Land Use Designations	
Institutional	FAR 0.5
Open Space	FAR 0.2

Notes:
du - dwelling unit, FAR - floor area ratio

The City established development intensity standards in 1988, for nonresidential land use designations. The standards measure intensity through the use of floor area ratios. The floor area ratios proposed for the City's major commercial corridors are expected to remain in place over the life of the Land Use Element.

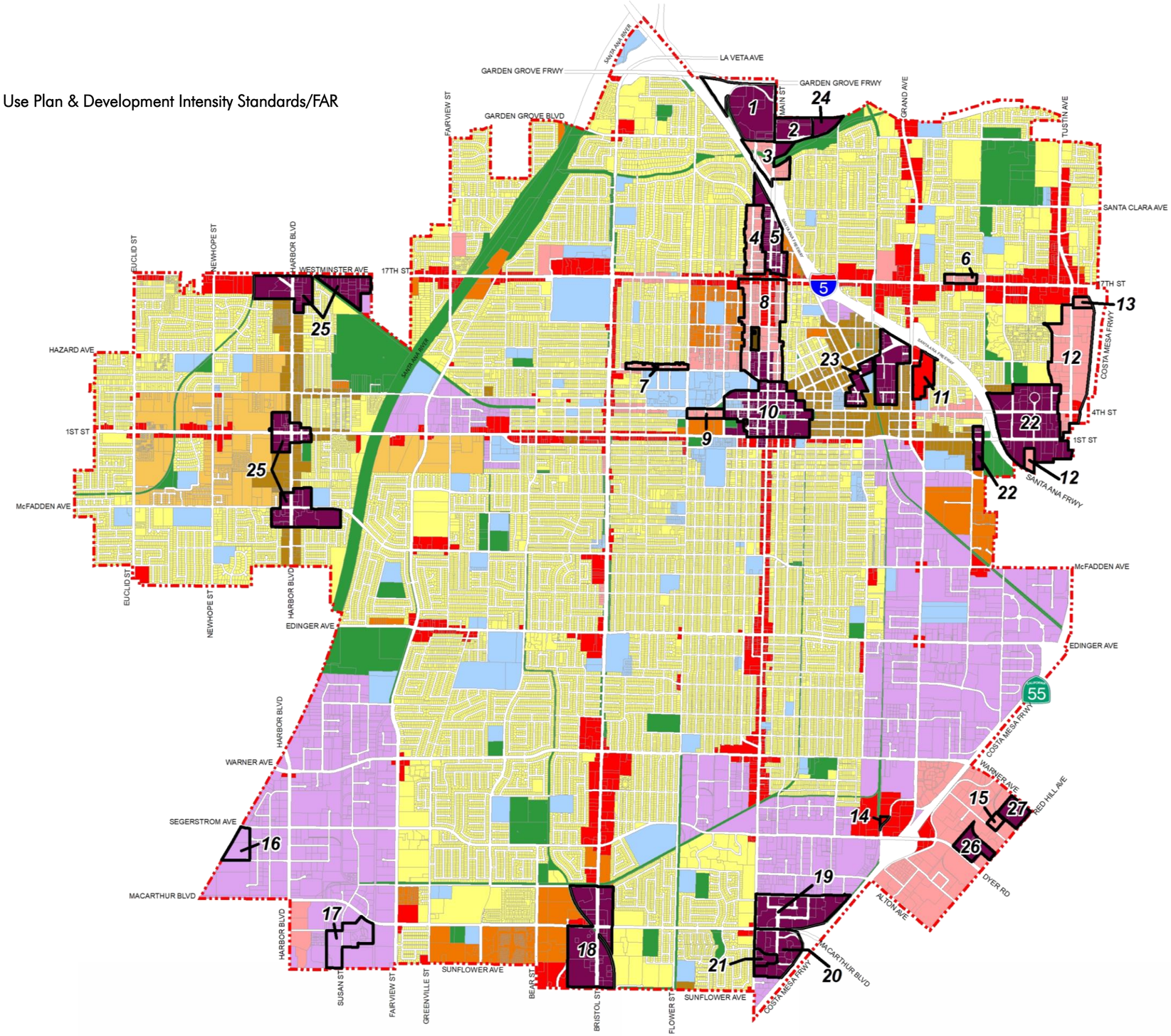
Those areas of the City proposed for the most intensive levels of development include district centers, professional and administrative office districts, and several other commercial centers with a unique character, or special development concerns. Some of these areas correspond to those for which Specific Plans have been prepared.

The proposed floor area ratio(s) for most of the City's commercial corridors allows structures of two to three stories with surface parking. The major development areas-the District Centers and Professional/Administrative Office Districts along Tustin Avenue and East First Street-allow mid-rise and high-rise buildings with structured parking. These areas are expected to generate the highest level of development activity in the City as centers of commerce. These areas are listed in Table A-2 and are shown in Exhibit A-4. The floor area ratios indicated in Table A-2 are the maximum building intensity allowed for development.

Table A-2 Key Area- Floor Area Ratios

Area	*Project/Area*	*FAR*
1	MainPlace	2.1
2	City Place	2.54
3	North Main Street	1.5
4	North Broadway	1.0
5	Museum District	1.5
6	Hutton Development	1.0
7	Civic Center Specific Development Plan	1.0
8	Midtown Specific Plan	0.5–1.0
9	Civic Center	1.0
10	Downtown	3.0
11	Orange County Register	1.15
12	First Street/Tustin Avenue	1.0
13	Bentall Center Development	1.5
14	2720 Hotel Terrace Drive	1.0
15	1951 East Carnegie Avenue	0.55
16	4040 West Carriage Avenue	0.47
17	Lake Center Development	0.72
18	South Coast Metro	1.0
19	MacArthur Place North	2.0
20	MacArthur Place South	1.0
21	Pac Tel Office	1.5
22	Metro East	3.0
23	Transit Village	5.0
24	Town & Country Manor	1.27
25	Harbor Mixed Use Transit Corridor	5.0
26	Heritage	1.7
27	Bowery	2.06

Exhibit A-4 Land Use Plan & Development Intensity Standards/FAR



These land use designations have a floor area ratio as noted below unless otherwise indicated in the table below.

DC (District Center)	1.0
UN (Urban Neighborhood)	0.5 - 1.5
PAO (Professional & Administration Office)	0.5
OBPDC (One Broadway Plaza District Ctr.)	2.9
GC (General Commercial)	0.5
IND (Industrial)	0.45
INS (Institutional)	0.5
O (Open Space)	0.2

	Project / Area	Floor Area Ratio
1-	MainPlace	2.1
2-	City Place	2.54
3-	North Main St	1.5
4-	North Broadway	1.0
5-	Museum District	1.5
6-	Hutton Development	1.0
7-	Civic Center Specific Dev Plan	1.0
8-	Midtown Specific Plan	0.5-1.0
9-	Civic Center	1.0
10-	Downtown	3.0
11-	Orange County Register	1.15
12-	First St / Tustin Ave	1.0
13-	Bentall Center Dev	1.5
14-	2720 Hotel Terrace Dr	1.0
15-	1951 E Carnegie Ave	0.55
16-	4040 W Carriage Ave	0.47
17-	Lake Center Dev	0.72
18-	South Coast Metro	1.0
19-	Mac Arthur Place	2.0
20-	Mac Arthur Place South	1.0
21-	Pac Tel Office	1.5
22-	Metro East	3.0
23-	Transit Village	5.0
24-	Town and Country Manor	1.27
25-	Harbor Mixed Use Specific Plan	0.5-5.0
26-	The Heritage	1.7
27-	The Bowery	2.06

LR-7 (Low Density Residential)	
LMR-11 (Low-Medium Density Residential)	
MR-15 (Medium Density Residential)	

Land Use Plan & Development Intensity Standards/ FAR Areas

Exhibit A-4

Pending - May 2020

Land Use Element

Commercial

The Land Use Plan identifies three land use designations that encourage a variety of office, retail and commercial enterprises to serve the community.

- The **Professional/Administrative Office (PAO)** designation applies to those areas where professional and/or administrative offices are predominant, or where such development is being encouraged. Land included in this designation is found primarily near the Civic Center, and along the First Street and Tustin Avenue Corridors in close proximity to freeways. There are other smaller PAO areas in the City such as along North Broadway and along portions of east and west Seventeenth Street. A total of 586.4~~600.8~~ acres is included in this land use designation. The floor area ratio intensity standard applicable to this land use designation ranges from 0.5 to 1.0.

  The Professional and Administrative Office areas are intended to provide a unique environment for office development in those areas of the City where office uses are the predominant land use. The purpose for maintaining and supporting these areas exclusively for office and office-related uses is to encourage major employment centers at locations which significantly lessen the impact to the City's local street system. The First Street/Tustin Avenue office corridor between the Santa Ana (I-5) and Costa Mesa (SR-55) Freeways serves this purpose. In addition, the orderly, well-maintained quality of existing development supports a continuation of these areas as functional office/employment centers.

  The Professional and Administrative Office designation includes a range of floor area ratios to differentiate development intensity and character in relation to adjacent land uses. The areas with a FAR of 0.5 are not major office centers, but rather have an established character of lower intensity garden office and professional service uses. These areas are typically adjacent to low density residential neighborhoods, or are converted residential office uses. Office development along East Fourth Street, between Grand Avenue and the Santa Ana Freeway, is typical of this low-rise office character. The PAO area located adjacent to the Civic Center contains a range of office development intensity which supports the City's functional role as the government center of the County.

  The types of uses typically located in the PAO district include the following:

  - Professional and administrative offices/office parks;
  - Service activities such as copy centers, courier services, travel agencies, and restaurants when such uses are an integral component of a planned office development; and
  - Professional uses such as accountants, attorneys, doctors, engineers, and insurance brokers.

- The **General Commercial (GC)** district applies to commercial corridors in Santa Ana including those located along Main Street, Seventeenth Street,

Harbor Boulevard, and other major arterial roadways in the City. The intensity standard applicable to this designation is a floor area ratio of 0.5 - 1.0, though most General Commercial districts have a FAR of 0.5. A total of 859.6acres of land is included in this designation.

General Commercial districts are key components in the economic development of the City. They provide highly visible and accessible commercial development along the City's arterial transportation corridors. In addition, General Commercial land uses provide important neighborhood facilities and services, including shopping, recreation, cultural and entertainment activities, employment, and education. The districts also provide support facilities and services for industrial areas including office and retail, restaurants and various other services.

The General Commercial development standards are based upon the character and intensity of development, as well as the degree of access and market demand for these properties. The relationships to adjacent land uses, are also considered. Uses typically located in this district are:

- Business and professional offices;
- Retail and service establishments;
- Recreational, cultural, and entertainment uses; and
- Vocational schools.

General Commercial Districts have a floor area ratio of 0.5 with the exception of the Mid-town area which has an floor area ratio of up to 1.0.

Mixed Use

The Land Use Plan provides for two distinct mixed use land use designations. These designations allow for both vertical and horizontal mixed use developments, with an emphasis on linkages to a range of transportation options:

- The **District Center (DC)** land use designation includes the major activity areas in the City. Eight~~Seven~~ areas of the City, totaling 699.8 ~~685.4~~ acres, are designated as District Center. The intensity standard for the District Center designation ranges from a floor ratio of 1.0 to 5.0.

  District Centers are designed to serve as anchors to the City's commercial corridors, and to accommodate major development activity. District Centers are to be developed with an urban character that includes a mixture of high-rise office, commercial, and residential uses which provide shopping, business, cultural, education, recreation, entertainment, and housing opportunities. Residential developments within some District Centers are allowed at a density of up to 90 units per acre when developed as an integral component of a master planned mixed use project. In Harbor Corridor, Metro East, Downtown, and Transit Village District Centers residential

- **The Bowery District** provides urban housing opportunities at the City's southeastern edge, in close proximity to the 55 Freeway regional travelway. The district allows high-density housing and complementary commercial uses to serve surrounding industrial, commercial, and residential areas.

District Centers are considered to be the City's "major development areas." The most intense development in the City is targeted to these areas. The Tustin Avenue corridor is a major development area even though it is not a designated District Center. This area has developed over the years as a prime office corridor and employment area. The PAO designation facilitates the continued development of this area with high intensity, high quality regional office projects.

- The **One Broadway Plaza District Center (OBPDC)** is a distinct land use that is envisioned as a major activity center with a landmark mixed-use tower, which will include residential, professional office, and commercial uses. The district will be a focal point in the downtown area serving the Civic Center complex, Downtown, and Midtown urban areas.
- The **Urban Neighborhood (UN)** land use designation applies to primarily residential areas with pedestrian oriented commercial uses, schools and small parks. The Urban Neighborhood allows for a mix of residential uses and housing types, such as mid to low rise multiple family, townhouses and single family dwellings; with some opportunities for live-work, neighborhood serving retail and service, public spaces and use, and other amenities. Either vertical or horizontal integration of uses is permitted based on zoning standards, with an emphasis on tying together the uses with pedestrian linkages and street frontages. Street connectivity is desirable, allowing for a high degree of walkability, transit options, and other forms of transportation including pedestrian and bicycle travel.

  The intensity standard for the Urban Neighborhood ranges from a floor area ration of 0.5 to 3.0; with residential density based on a combination of floor area ratio and zoning development standards. A total of 317.0 acres of land in the City are designated Urban Neighborhood.

Industrial

The Industrial designation applies to those areas developed with manufacturing and industrial uses. The designation applies to areas which are predominantly industrial in character, and includes those industrial districts in the southwestern, south central and southeastern sections of the City. A total of 2,152.8 acres of land in the City is designated as Industrial. The maximum floor area ratio for this designation is 0.45.

The Industrial districts of the City are vital to its economic health. These areas provide employment opportunities for local residents, and generate municipal revenues for continued economic development. As one of the County's oldest cities, Santa Ana has long been an industrial center for the region. The City's goal

- **Redevelopment Plans.** The City will apply redevelopment tools associated with the implementation of the adopted redevelopment plans, as appropriate. The City will encourage the further development of industrial, commercial, and residential projects in suitable locations to strengthen the City's tax and employment base.
- **Special Studies.** In certain instances, a special study may be required to address a particular issue. In these cases, a specific effort to identify staff resources needed to conduct the appropriate investigation and analysis will be identified.
- **Zoning Code Review.** The zoning code serves as a primary tool used by the City to regulate development. The City will develop a program to revise the Zoning Ordinance to ensure that development regulations and standards are consistent with community needs and high quality development. The City will initiate appropriate changes to the ordinance to ensure, where appropriate, conformity between the Land Use Element and Zoning Map.

LAND USE PLAN BUILDOUT

As indicated previously, the City of Santa Ana has been almost completely developed for many years. As a result, any new development will necessarily consist of redevelopment and infill development on the remaining vacant and underutilized parcels. Many parcels with nonresidential land use designations will never be developed to the maximum intensity permitted under the General Plan.

Table A-4 indicates the development possible under the build-out of the Land Use Plan. The build-out for residential land uses considered two scenarios. Effective build-out for residential development is calculated by adding the 22,996~~21,896~~ units possible in the areas designated as District Center and Urban Neighborhood to the existing 74,669 units presently found in the City per Census 2000. Theoretical build-out for residential development considered the development possible if all of the areas designated as residential were developed according to the permitted Land Use Plan intensities. Since the Land Use Element does not contemplate the elimination of existing housing in the City, the effective build-out figure represents a more realistic estimate of future residential development.

As indicated in Table A-4, three of the non-residential land use designations have a range in FAR intensities. For the non-residential land use designations, effective build-out considered the development possible under the lower range of FAR intensities while theoretical build-out considered the upper FAR range. Typically, parking and landscaping requirements will result in significantly less floor area for commercial and industrial developments than that which is permitted under the General Plan.

As indicated in Table A-4, between 78,381~~77,281~~ to 97,665~~96,565~~ housing units are allowed by the Land Use Plan. The additional units which presently exist in

the City beyond the maximum number permitted under the theoretical buildout scenario are a reflection of the higher density multiple-family developments constructed in the 1970's and 1980's. However, the purpose of the Land Use Plan as it applies to the residential areas is to preserve and maintain the stability of existing neighborhoods, regardless of the character of development. The intent of the Plan is not to create any displacement, nor decrease existing development densities. Rather, it is to ensure a safe, healthy, and livable environment for City residents. Existing residential development entitlements are protected through this Land Use Element, applicable Zoning regulations, and sections of the City code pertaining to legal nonconforming uses.

The Land Use Element's implementation may result in an increase in the amount of commercial, office, and industrial development in the City. As indicated in Table A-4, up to 31,495,429~~31,808,407~~ square feet of commercial and office, and 42,199,991 square feet of industrial development are possible under the effective capacity parameters of Land Use Plan.

Table A-4
Land Use Plan Build-out Capacities

Land Use		*Acres*	*Intensity/ Density*	*Effective Buildout*[1]		*Theoretical Buildout*	
Residential							
Low Density Residential	LR-7	6,468.1	7 du/ac				45,276 du
Low Medium Density Residential	LMR-11	421.6	11 du/ac				4,638 du
Medium Density Residential	MR-15	364.7	15 du/ac				5,471 du
Subtotal		**7,254.4**			97,665 ~~96,565~~ **du**[1]		**55,385 du**
Mixed Use				Non Res.	Res.	Non-Res.	Res.
District Center							
Other[2]	DC	309.5	90 du /ac FAR 1.0-2.0	11,955,583 sf	3,017 du	23,764,534 sf	3,017 du
Bowery	DC	14.4	FAR 2.06	80,000 sf	1,100 du	80,000 sf	1,100 du
Heritage	DC	18.8	FAR 1.7	54,090 sf	1,221 du	54,090 sf	1,221 du
Downtown	DC	62.5	FAR 3.0	2,057,824 sf	1,661du	2,057,824 sf	1,661 du
Metro East	DC	113.9	FAR 0.75- 3.0	2,464,776 sf	5,037 du	2,464,776 sf	5,037 du
Transit Village	DC	51.4	FAR 5.0	402,864 sf	2,761 du	402,864 sf	2,761 du
Harbor Corridor	DC	125.0	FAR 5.0	1,836,155 sf	2,029 du	1,836,155 sf	2,029 du
One Broadway Plaza District Ctr[3]	OBPDC	4.3	FAR 2.9	310,000 sf	415 du	310,000 sf	415 du
Urban Neighborhood	UN	317.0	FAR 0.5-3.0	1,656,955 sf	5,755 du	1,656,955 sf	5,755 du
Subtotal		1,016.8 ~~1,002.4~~		20,818,247 ~~20,738,247~~ **sf**	22,996 ~~21,896~~ **du**	32,627,198 ~~32,547,198~~ **sf**	22,996 ~~21,896~~ **du**
Commercial							
Professional & Admin. Office	PAO	586.4 ~~600.8~~	FAR 0.5-1.0	12,772,445 ~~13,085,424~~ sf		25,540,891 ~~26,170,848~~ sf	
General Commercial	GC	859.6	FAR 0.5-1.0	18,722,983 sf		37,445,967 sf	
Subtotal		1,446.1 ~~1,460.4~~		31,495,429 ~~31,808,407~~ **sf**		62,990,858 ~~63,616,815~~ **sf**	
Industrial							
Industrial	IND	2,152.8	FAR 0.45	42,199,991 sf		42,199,991 sf	
Other							
Institutional	INS	800.6	FAR 0.2-0.5	6,974,740 sf		17,436,850 sf	
Open Space	OS	1,010.9	FAR 0.2	8,806,961 sf		8,806,961 sf	
Subtotal		**1,811.5**		**15,781,701 sf**		**26,243,811 sf**	

FAR=floor area ratio; d.u.=dwelling unit; s.f.=square feet (of floor area). Acreage shown in table does not include roads in right-of-way.
[1] Effective capacity for non-residential development assumes development possible under the lower range of FAR intensity standards with the exception of the Metro East District Center, Transit Village District Center, Downtown District Center, Heritage District Center, and Urban Neighborhood areas. The Harbor Corridor District Center, Metro East District Center, Transit Village District Center, Downtown District Center, and Urban Neighborhood areas allow a range of intensity for mixture of residential and non-residential development based on the zoning development standards. Residential effective capacity was calculated by adding the 22,996~~21,896~~ units possible in the District Center and Urban Neighborhood with the existing 74,669 (Census 2000) housing units.
[2] Land use designation permits both residential and non-residential development. Build-out assumes 90% of land area will be developed as commercial and 10% will be developed as residential; with the exception of Town and Country Manor project intended for continuum of care and housing seniors.
[3] Land use designation permits high intensity office development with ancillary retail use.
This table has been revised to correspond with the GIS Land Use Map illustrated in Exhibit 2.

EXHIBIT 3

2 - 505

ORDINANCE NO. NS-XXXX

AN ORDINANCE OF THE CITY COUNCIL APPROVING AMENDMENT APPLICATION NO. 2020-01 REZONING THE PROPERTY LOCATED AT 2300, 2310, AND 2320 SOUTH REDHILL AVENUE FROM LIGHT INDUSTRIAL (M-1) TO SPECIFIC DEVELOPMENT NO. 96 (SD-96) AND ADOPTING SD-96 FOR SAID PROPERTY

THE CITY COUNCIL OF THE CITY OF SANTA ANA DOES ORDAIN AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

WHEREAS, Chapter 41, Article 1, Division 1, Section 41-1 of the Santa Ana Municipal Code establishes the necessity of segregating the location of residences, businesses, trades and industries; regulating the use of buildings, structures, and land regulation; the location, height, bulk and size of buildings and structures, the size of yards and open space; the City is divided into land-use districts of such number, shape and area as may be considered best suited to carry out these regulations and provide for their enforcement; and

WHEREAS, the regulations are considered necessary in order to: encourage the most appropriate use of land, conserve and stabilize property value, provide adequate open spaces for light and air and to prevent and fight fires, prevent undue concentration of population, lessen congestion on streets and highways, and promote the health, safety and general welfare of the people, all as part of the general plan of the City; and

WHEREAS, the City of Santa Ana has adopted a zoning map which has since been amended from time to time; and

WHEREAS, Jeremy Ogulnick, representing Arrimus Capital ("Applicant"), seeks to develop The Bowery Mixed-Use Commercial and Residential Project ("proposed Project"), on a 14.69-acre site at 2300, 2310, and 2320 South Redhill Avenue in Santa Ana, California ("Project Site"); and

WHEREAS, during the City's entitlement and environmental review process, and in response to comments and concerns raised by the City and public, the Applicant has proposed the subject mixed-use Project; and

WHEREAS, the Project as currently proposed entails, among other things, (1) demolition of the existing three (3) structures on the Project Site; (2) redevelopment of the Project Site with a commercial and residential mixed-use development consisting of up to 80,000 square feet leasable commercial area, 1,100 residential units, 2,600 onsite parking spaces, and onsite landscaping and amenities; (3) approval of General Plan

Amendment (GPA) No. 2020-02, which would change the Project Site's existing land use designation of Professional & Administration Office (PAO) to District Center (DC); and (4) approval of Amendment Application (AA) No. 2020-01, which would change the zoning of the Project Site from Light Industrial (M-1) to Specific Development No. 96 (SD-96) designation; and

WHEREAS, Applicant agrees to execute a Mutual Declaration of Acknowledgement and Acceptance of Approval Conditions, signed by the developer and property owner and recorded against the development property, attached hereto and incorporated herein by reference as Exhibit C; and

WHEREAS, the requested Amendment Application would change the zoning designation of the property from Light Industrial (M-1) to Specific Development No. 96 (SD-96) and adoption of Specific Development No. 96 to reflect this change in order to facilitate the construction of the proposed Project; and

WHEREAS, Environmental Impact Report No. 2020-01 (State Clearinghouse/SCH No. 2019080011) for the proposed Project was circulated between January 3, 2020 to February 18, 2020; and

WHEREAS, the Environmental Impact Report analyzed the impacts related to the proposed amendment to the zoning map and adoption of Specific Development No. 96; and

WHEREAS, during the public comment period, a Planning Commission work-study session was held on February 10, 2020 where staff presented proposed Project and described the Draft EIR; and

WHEREAS, on May 11, 2020, the Planning Commission conducted a duly noticed public hearing to consider the EIR and the GPA, and AA applications described above. After hearing all relevant testimony from staff, the public and the City's consultant team, the Planning Commission voted to recommend that the City Council certify the EIR and adopt the findings, the statement of overriding considerations and the mitigation monitoring and reporting program and approve the Project; and

WHEREAS, on May 21, 2020, the City gave public notice of a City Council public hearing for consideration of Environmental Impact Report No. 2020-01 (State Clearinghouse No. 2019080011) by advertising in the Orange County Register, a newspaper of general circulation, and by mailing to owners of property and residents within 500 feet of the Project; and

WHEREAS, on June 2, 2020, the City Council conducted a duly noticed public hearing to consider the EIR, General Plan Amendment No. 2020-02, and Amendment Application No. 2020-01 and at which hearing members of the public were afforded an opportunity to comment upon Environmental Impact Report No. 2020-01. After hearing all relevant testimony from staff, the public and the City's consultant team, the City Council voted to certify the EIR, adopt the findings, the statement of overriding

considerations and the mitigation monitoring and reporting program and approve the Project; and

WHEREAS, the "EIR" consists of the Final EIR and all attachments and appendices, as well as the Draft EIR and its attachments and appendices (as modified by the Final EIR).

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA ANA DOES RESOLVE, DETERMINE, FIND, AND ORDER AS FOLLOWS:

SECTION 2. CALIFORNIA ENVIRONMENTAL QUALITY ACT: The City Council has reviewed and certified Environmental Impact Report No. 2020-01; adopted the Mitigation Monitoring and Reporting Program (MMRP); and adopted the Statement of Overriding Consideration for the proposed Project, including this Amendment Application No. 2020-01.

SECTION 3. AMENDMENT APPLICATION: The Amendment Application consists of amendments to the zoning map (SDM IRS-9) and adoption of Specific Development No. 96, as shown in Exhibit A and Exhibit B respectively, attached hereto and incorporated herein by reference.

SECTION 4. LOCATION OF DOCUMENTS: The Amendment Application, Environmental Impact Report and all supporting documents are online, on file and available for public review at Santa Ana City Hall, 20 Civic Center Plaza, Santa Ana, California 92702.

SECTION 5. GENERAL PLAN CONSISTENCY: The City Council hereby finds that the proposed Amendment Application is compatible with the objectives, policies, and general plan land use programs as amended by General Plan Amendment No. 2020-02 in that:

A. The proposed Amendment Application will not adversely affect the public health, safety, and welfare in that the Amendment Application will not result in incompatible land uses on adjacent properties, inconsistencies with any General Plan goals or policies, or adverse impacts to the environment.

B. The amendment application to change the zoning designation from Light Industrial (M-1) to Specific Development No. 96 (SD-96) is consistent with Santa Ana Municipal Code section 41-593.1 for the following reasons:

(1) Protecting and enhancing the value of properties by encouraging the use of good design principles and concepts, as related to the division of property, site planning and individual improvements with full recognition of the significance and effect they have on the proper planning and development of adjacent and nearby properties.

The project's site plan has been designed to integrate the project site into the surrounding community. The development's primary access points will be from a right-in, right-out driveway on Redhill Avenue, and from a signalized intersection on Warner Avenue. These access points have been designed to ensure the safety of residents and visitors of the project site, as well as commuters, employees, and residents of the surrounding community.

Onsite circulation has been designed to ensure a high-quality pedestrian experience, with wide sidewalks, a central paseo, and plazas and courtyards that buffer or separate pedestrians from onsite vehicular traffic. Moreover, the project has been broken into four primary buildings and two freestanding commercial pads, which reduces the overall massing of the project and creates a more pedestrian-scale village of buildings onsite. The two future roadway connections on the project site will allow the development to become integrated with the adjacent site to the southwest, should an application for redevelopment be approved. (As of the date of this ordinance, no application for redevelopment of the adjacent site to the southwest has been submitted for the City's consideration).

(2) Encouraging, securing and maintaining the orderly and harmonious appearance, attractiveness and aesthetic development of structures and grounds in order that the most appropriate use and value thereof be determined and protected.

The project's six buildings on the 14.69-acre site are designed in a cohesive manner with unifying materials, floor heights, and articulation using contemporary architecture in an "industrial tech" style. High-quality building materials will ensure long-term durability and maintaining high value of the project, including metal trim, awnings, railing, slats, and cladding; brick veneers and high-quality light sand finish stucco; glass railing; and poured concrete forms. Onsite furniture and details, such as lighting, waste receptacles, benches, tables, and open space areas, have been designed to complement the site's contemporary architecture. High ground-floor window and ceiling heights will contribute to the high-quality commercial component of the project site, which has been designed to create a dynamic, commercial and residential village. These finishes and designs are consistent with the development standards and design guidelines found in the City's mixed-use zoning areas such as the Transit Zoning Code and Metro East Mixed Use (MEMU) Overlay Zone, as well as the Citywide Design Guidelines.

Open space and amenities will be provided on the site in a variety of means, including private unit balconies and patios, amenity decks atop parking structures, ground-level courtyards, the central paseo, and the central plaza. The resident open space areas will contain pools, courtyards, exercise areas, relief areas for pets, and other amenities typical to high-quality mixed-use developments found in Santa Ana and in Orange County. Based on a standard of two (2) acres of public park and/or recreational area per 1,000 residents (SAMC Sec. 35-108), the proposed project would require 4.2 acres of parkland to serve the new residents. The onsite total proposed open space is 183,363 square feet (4.21 acres), which is consistent with the SAMC standard and with other mixed-use projects that provide their own onsite public and private open space areas.

(3) Providing a method whereby specific development plans are to be based on the general plan as well as other regulations, programs, and legislation as may, in the judgment of the city, be required for the systematic execution of the general plan.

With approval of General Plan Amendment No. 2020-02, the Project will be consistent with the General Plan Land Use Element. Although the Project requires an amendment to the Land Use Element to allow for residential use of the property, the Project still supports and is consistent with several other overarching goals and policies of the General Plan. For example, as described in the associated General Plan Amendment No. 2020-02: Housing Element Goal 2, to create diversity of quality housing, affordability levels, and living experiences that accommodate Santa Ana's residents and workforce of all household types, income levels, and age groups to foster an inclusive community. Land Use Element Goal 4, to protect and enhance development sites and districts which are unique community assets that enhance the quality of life. Urban Design Element, Goal 1, to improve the physical appearance of the City through development of districts that project a sense of place, positive community image, and quality environment.

(4) Recognizing the interdependence of land values and aesthetics and providing a method to implement this interdependence in order to maintain the values of surrounding properties and improvements and encouraging excellence of property development, compatible with the general plan for, and character of, the city, with due regard for the public and private interests involved.

The proposed development contains a large commercial component of 80,000 square feet of leasable retail, service, and restaurant area. This volume of commercial space complements the residents, visitors, and employees working and living on and around the project site.

The 80,000 square feet of leasable commercial area is among the largest commercial components proposed in recent mixed-use developments. For comparison, the Elan project (1660 East First Street) approved in 2018 contains 603 residential units and 20,000 square feet of commercial space; the First American redevelopment (114 East Fifth Street) approved in 2019 contains 220 residential units and 12,350 square feet of commercial space, and The Heritage (2001 East Dyer Road), which is under construction nearby, contains 1,221 residential units and 18,400 square feet of net new commercial square footage.

The mixture of land uses on the project site, including residential, commercial, and open space, will contribute to the formation a dynamic mixed-use village. The commercial and open space components will serve both residents and visitors of the project site, as well as the large daytime employee population working in the project site's immediate vicinity.

(5) Ensuring that the public benefits derived from expenditures of public funds for improvements and beautification of streets and public facilities shall be protected by exercise of reasonable controls over the character and design of private buildings, structures and open spaces.

The mixed-use development will utilize existing water, sewer, and drainage infrastructure and will not result in the expansion of infrastructure. In addition, the Project will not result in the expansion of new or altered police or fire facilities. The Project will be subject to utility user tax, property taxes based on the valuation of the new construction and management company business taxes. The building facades and new landscaping are designed to deter graffiti, existing sidewalks will be removed and replaced with new sidewalks that are constructed to current City standards, new street lights will be installed and the City's Building Security Ordinance will be implemented which includes security and crime preventing measures to help reduce City expenditures on public services and maintenance. In addition, the development will be subject to all required development impact fees.

SECTION 6. INDEMNIFICATION.

A. General Indemnification. The Applicant shall indemnify, protect, defend and hold the City and/or any of its officials, officers, employees, agents, departments, agencies, authorized volunteers, and instrumentalities thereof, harmless from any and all claims, demands, lawsuits, writs of mandamus, and other and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to arbitrations, mediations, and such other procedures), judgments, orders, and decisions (collectively "Actions"), brought against the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, any action of, or any permit or approval issued by the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City) for or concerning the project, whether such Actions are brought under the Ralph M. Brown Act, California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure sections 1085 or 1094.5, or any other federal, state or local constitution, statute, law, ordinance, charter, rule, regulation, or any decision of a court of competent jurisdiction. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that Applicant shall reimburse the City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the Applicant of any Action brought and City shall cooperate with Applicant in the defense of the Action.

B. Further Indemnification. Within five (5) days of receipt of a referendum petition by the City, Applicant shall deposit Fifty Thousand Dollars ($50,000) ("Referendum Deposit") with the City. City may use the funds to pay any and all costs associated with said referendum measure. If at any time the Referendum Deposit account has Five Thousand Dollars ($5,000) or less remaining, Applicant shall, within three (3) days of receiving notice from the City, deposit with the City additional funds as requested by the City to cover all costs and expenses associated with processing the referendum and holding the related election. Following certification of the election results, any funds remaining in the Referendum Deposit account shall be returned to the Applicant.

SECTION 7. If any section, subsection, sentence, clause, phrase or portion of this ordinance for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council of the City of Santa Ana hereby declares that it would have adopted this ordinance and each section, subsection, sentence, clause phrase or portion thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, or portions be declared invalid or unconstitutional.

SECTION 8. CITY COUNCIL ACTIONS: The City Council hereby takes the following actions:

1. The City Council hereby adopts an Ordinance approving Amendment Application No. 2020-01 as follows:

   A. Subject to compliance with the Mitigation Monitoring and Reporting Program, the property at 2300, 2310, and 2320 shall be amended to Specific Development No. 96 and the Specific Development No. 96 plan shall be adopted as set forth in Exhibit A and Exhibit B, attached hereto and incorporated herein by reference.

   B. The Amendment Application shall not take effect unless and until Environmental Impact Report No. 2020-01 and General Plan Amendment No. 2020-02, are each certified and approved by the City Council.

SECTION 9. EXECUTION OF ORDINANCE. The Mayor shall sign this Ordinance and the Clerk of the Council shall attest and certify to the adoption thereof.

ADOPTED this _____ day of _____, 2020.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho
City Attorney

By:_____
Lisa Storck
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, DAISY GOMEZ, Clerk of the Council, do hereby attest to and certify that the attached Ordinance No. NS-XXXX to be the original ordinance adopted by the City Council of the City of Santa Ana on _____, 2020, and that said ordinance was published in accordance with the Charter of the City of Santa Ana.

Date: _____

_____
Daisy Gomez
Clerk of the Council
City of Santa Ana

CITY OF SANTA ANA
PLANNING & BUILDING AGENCY

THE BOWERY MIXED-USE SPECIFIC DEVELOPMENT NO. 96

Amendment Application No. 2020-01

Ordinance NS-_____

THE BOWERY MIXED-USE
SPECIFIC DEVELOPMENT No. 96

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Figures

Tables

SECTION 1 – INTRODUCTION AND APPLICABILITY OF ORDINANCE

The purpose of The Bowery Mixed-Use Specific Development (SD) zone (SD-96) is to guide the redevelopment of an existing industrial site into a mixed-use and pedestrian oriented development. SD-96 is authorized by Chapter 41, Division 26, Section 41-593 et seq. of the Santa Ana Municipal Code (SAMC). SD-96 contains specific standards and regulations for the purpose of establishing land use regulations and development and operational standards for the development site. All other applicable Chapters, Articles, and Sections of the SAMC are in full effect unless expressly superseded by regulations contained within this specific development.

A. Specific Development Location

The specific development site is 14.37 acres and is located at 2300, 2310, and 2320 South Redhill Avenue in the City of Santa Ana. The site is located at the southwest corner of Redhill Avenue and Warner Avenue. Regional access to the site is provided via the Costa Mesa (SR-55) Freeway at the Dyer Road exit. Access to the site is provided by Red Hill Avenue and Warner Avenue. The site is located within the southeastern most portion of the City of Santa Ana adjacent to the cities of Tustin and Irvine and the Tustin Legacy Specific Plan and the Irvine Business Complex.

Figure 1: Specific Development Area

SECTION 2 – PURPOSE AND OBJECTIVES

The specific development is intended to redevelop an industrial site into a mixed-use and pedestrian oriented community. Located at one of the City's southeastern gateways, the specific development will function as a key focal center, and serve to link Santa Ana to surrounding industrial, commercial and residential areas. SD-96 will meet the following objectives:

1. Facilitate development of a mixed-use village containing commercial and multi-family residential buildings, which would help meet the region's demand for housing.

2. Transform an underutilized site with an economically viable development consistent with other regional redevelopments in the Tustin Legacy Specific Plan and Irvine Business Complex (IBC) and combines residential uses with community-serving retail near employment opportunities, freeway access, and transit.

3. Redevelop existing land uses that would utilize existing infrastructure, including: water, sewer, arterial roadways, transit, and freeways; and provide non-vehicular (pedestrian and bicycle) circulation.

4. Develop a mix of housing to assist the City in meeting its jobs/housing balance.

5. Provide onsite uses that reduce vehicular miles traveled (VMT) by providing an internal pedestrian circulation system that links residential uses, recreation areas, and retail/commercial areas onsite.

6. Implement the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Land Use Policies related to population and housing by providing additional housing near employment centers.

SD-96 establishes standards and regulations for protecting the health, safety, and general welfare of the people of the City by promoting and enhancing the value of property and encouraging the orderly development of the property.

SECTION 3 – LAND USE AND ZONING

A. Density and Intensity

The maximum authorized building density and intensity for the project is a floor area ratio (FAR) of 2.06, including residential areas, community-serving areas (e.g., leasing office, gym and club room), commercial components, and interior corridors. The maximum residential density permitted is 77 dwelling units per acre.

B. Permitted Uses

1. SD-96 permits the development of a mixed-use community consisting of 80,000 square feet of leasable commercial area to be constructed in conjunction with a residential component consisting of up to 1,100 residential units configured in live/work, stacked dwelling, lined block, or podium configurations.

2. This section identifies the permitted, conditional, and accessory or temporary uses within the SD-96 area. Uses in the table are permitted subject to the permit criteria referenced. Uses identified by a "P" are permitted by right, those identified by a "CUP" are subject to a Conditional Use Permit, and those identified by "LUC" are subject to a Land Use Certificate.

Table 1: Permitted Uses

Land Use Types	SD-96	Additional Use Regulations
Commercial/retail and service uses such as bakeries, bookstores, art galleries, food/grocery stores (retail market), pet stores and similar uses.	P	
Office uses. Professional, administrative and business offices providing personal and professional services, including medical and dental offices, architects/engineers, and similar uses.	P	
Service oriented office uses including insurance, real estate, travel, finance (including walk-up ATMs), creative office co-working (WeWork, Common Desk, etc.), beauty salons, and similar uses.	P	
Health and Fitness Clubs	P	
Tattoo/Body art establishment	P	
Restaurants, cafes and eating establishments	P	
Outdoor dining	P	
Multi-family apartments and/or condominiums and associated leasing offices and recreational/fitness facilities.	P	
Live/work lofts	P	
Alcohol sales for on-site or off-site consumption	CUP	Subject to SAMC Sec. 41-196
Limited artisan/craft manufacturing, ancillary to a primary allowed use	CUP	
Pick-up windows	P	
Food vending vehicles	LUC	Subject to Article XIV
Temporary outdoor activities	LUC	Subject to SAMC Sec.41-195.5

Land Use Types	SD-96	Additional Use Regulations
Businesses operating between 12:00 a.m. (midnight) and 7:00 a.m.	CUP	
Major wireless communication facilities	CUP	Subject to SAMC Sec. 41-198
Minor wireless communication facilities	LUC	Subject to SAMC Sec. 41-198

Any use not included shall be considered prohibited unless deemed to be similar to an allowable use as interpreted by the Executive Director of the Planning and Building Agency or his/her designee.

C. Development Standards

The development standards for SD-96 are subject to and shall comply with the development approved plans per Development Project No. 2019-06 (DP No. 2019-06) and the approved Mitigation Monitoring and Reporting Program (MMRP), attached hereto as **Attachment A** and **Attachment B** for reference. The plans shall govern in the event there is a conflict between the SD and the project plans. The following standards in Table 3 are minimums unless otherwise indicated.

Table 2 – Development Standards

Item	Standard
Density	77 dwelling units per acre
Floor Area Ratio (FAR)	2.06
Minimum Lot Size	14 acres (entire specific development area) (1)
Building Height	7 Levels; 94 feet (not including subterranean levels)
Building Setbacks:	
Redhill Avenue Setback	10 feet minimum
Warner Avenue Setback	8 feet minimum
Interior Property Line Setback	10 feet minimum
Outdoor Dinning Setbacks:	
Redhill Avenue Setback	6 feet minimum

Table 2 Notes:

(1) Prior to the issuance of building permits, any and all subdivision maps, lot line adjustments, or voluntary lot mergers shall be approved and recorded.

D. Off-Street Parking Standards

The minimum off-street parking requirements for the development is as follows:

1. Two (2) vehicle parking spaces per residential unit, not to be less than 2,200 residential parking spaces;

2. Five (5) vehicle parking spaces per 1,000 square feet of gross floor area of leasable commercial space, achieved through 351 parking spaces and 49 valet service spaces as administered per the approved Parking Management Plan, attached hereto as **Attachment C**;

3. One (1) bicycle parking space per five (5) residential units and one (1) space per each 7,500 square feet of commercial space; and

4. One (1) motorcycle parking space per every 250 vehicle parking spaces.

E. Open Space Requirements

The development shall provide open space, public plazas and pedestrian paseos as shown on the approved plans.

1. Common Open Space: The project will provide a minimum of 15 percent of the total lot size shall be open space in the form of common, landscaped open space areas, pools, spas, deck, courtyard and lobby, interior community room, dining room, gym, business room, etc.

2. Private Open Space: Each residential unit shall have a patio or balcony of a minimum size of 50 square feet.

F. Walls/Fences

A new solid block wall with a minimum height of seven (7) feet shall be constructed along the project site's entire perimeter, except in street-side landscape setback areas. The block wall shall be designed to contain a decorative cap, regularly-spaced decorative pilasters, and a decorative finish in accordance to the design provisions contained within the most recent version of the City's design guidelines. Fences/walls along Redhill Avenue and Warner Avenue properties lines are prohibited.

SECTION 4 – DESIGN AND PERFORMANCE STANDARDS

This section provides standards and guidelines to ensure the development is of high quality and cohesive and to facilitate exterior alterations to the development.

A. Exterior Materials, Finishes and Colors

Exterior building and exterior parking structure materials, finishes and colors for the project shall comply with the approved materials board submitted for the project and as approved by the Planning and Building Agency Executive Director. Any changes to the materials, finishes and colors shall be approved by the Planning and Building Agency Executive Director. All trash enclosures and similar ancillary structures shall match the texture, material and color of the primary building.

B. Exterior Lighting

An exterior lighting plan for the security and safety of on-site areas such as building entrances, parking, loading, pedestrian walkways, alley walkways and open space areas shall be provided to the Planning and Building Agency Director for review and approval.

A minimum of one foot-candle evenly distributed across a parking lot is recommended. At entrances and loading areas, up to 2 foot-candles may be appropriate. Decorative night lighting is required. Low energy lights, such as LED lights or solar powered lights, shall be used whenever possible. Light fixtures and their structural support shall be designed to be architecturally compatible with the main buildings on-site. Direct glare onto adjoining property, streets, or skyward shall be avoided. All lighting fixtures shall be shielded to confine light spread on-site.

C. Refuse Collection and Trash Enclosure

Bins for recycling and any other refuse mandated by the State of California shall be provided for all uses in trash enclosures. There shall be an onsite designated trash staging area only to be used on service days and the staging area and bins shall not disrupt vehicular use of streets or drive aisles. The minimum requirements needed to service the development shall be clearly indicated on the plans and subject to the approval of the Public Works Agency.

D. Utility and Mechanical Equipment

All utility lines shall be placed underground except where required to be above-ground by utility providers. Where equipment is located above-ground, it shall be screened from public view. This includes all ground, wall, and roof mounted equipment. Screening elements shall be an integral part of the building; no screening method shall give the appearance of being “tacked on.” Typical ground-mounted equipment shall be adequately screened with decorative walls and/or landscaping.

SECTION 5 – PUBLIC REALM AND LANDSCAPE DESIGN STANDARDS

A detailed and comprehensive Public Realm and Landscape Plan shall be submitted to the Planning and Building Agency Executive Director or his/her designee for review and approval prior to the issuance of building permits.

The plan shall comply with the City's Water Efficient Landscape Ordinance (WELO) Chapter 41, Article XVI of the SAMC. The plan shall include an irrigation system layout with the location of controllers and points of connection with data on valve sizes and gallons per minute (G.P.M.), the size and location of sleeves and all spray heads, including the location of conventional systems and drip systems; an irrigation legend with complete specifications; irrigation notes and construction details of all assemblies and components; a recommended irrigation schedule, preferably on an annual basis; and a summary block on the initial page of submitted plans that will present the above information clearly and accurately.

The plan shall include a Plant Legend containing: plant symbol, scientific name of plant material, common name of plant material, plant container size, and plant spacing. Very low, low and medium water usage plant materials are encouraged.

The plan shall include details of site furnishings. Site furnishing should be compatible in style with the buildings and selected to bring comfort, scale and design expression to the streetscape. These must also be highly durable and easy to maintain. Planters and pots should be used to complement the project architecture and other site amenities; avoiding obstructions to pedestrian traffic flow with planters and pots. All elements of the furniture palette should be uniform.

Landscaping for the project shall be completed in phases by building and shall be installed and inspected prior to occupancy of units within that building. The Owner shall be responsible for maintaining all common area landscaping within the development.

SECTION 6 – SIGNAGE AND WAYFINDING

A comprehensive sign program shall be submitted for review and approval by the Planning and Building Agency Executive Director or his or her designee prior to the issuance of building permits. The sign program may include creative signage where the contents and standards of the sign program are not consistent with the Santa Ana Municipal Code, provided the sign program complements the form and function of the building and contributes to the aesthetics of the project.

SECTION 7 – PUBLIC ART

A Public Art Program shall be submitted to the Planning and Building Executive Director for review and approval prior to the issuance of building permits. Public Art shall be installed and maintained with a value equivalent to one-half of one percent (0.5%) of the total construction cost of the development. Total construction cost shall mean all design, engineering and construction costs.

SECTION 8 – PROPERTY SAFETY AND MAINTENANCE

A. On-Site Property Manager

The specific development area shall include 24-hour on-site Property Management services and personnel. Up-to-date 24-hour contact information for the on-site personnel shall be provided to the following City Agencies on an ongoing basis:

1. Police Department,
2. Fire Authority,
3. Planning and Building Agency, and
4. Community Development Agency.

B. Maintenance

The property shall be maintained free of trash, debris and graffiti. Graffiti shall be removed within 24-hours after its appearance in accordance with Section 10-227 of the Santa Ana Municipal Code.

C. Crime Free Housing

Prior to submittal into building plan check, a Crime Free Housing Plan shall be submitted for review and approval by the Planning and Building Agency Director. The Plan shall be approved prior to occupancy of the first unit and shall be implemented and administered by the Owner.

D. Building Security.

All structures and parking lots shall comply with the provisions of Chapter 8, Article II, Division 3 of the Santa Ana Municipal Code (Building Security Ordinance).

E. Emergency Evacuation Plan.

An approved Emergency Evacuation Plan (EEP) from City Police and Fire Protection agencies shall be on file for the project. Up-to-date 24-hour emergency contact information for the on-site personnel shall be provided to the City on an ongoing basis and the approved EEP shall be kept onsite and also be submitted to the following City Agencies:

1. Police Department
2. Orange County Fire Authority
3. Planning and Building Agency
4. Community Development Agency

F. On Going Property Maintenance.

Developer (and the owner of the property upon which the authorized use and/or authorized improvements are located if different from the Developer) shall execute a maintenance agreement with the City of Santa Ana which shall be recorded against the property and which shall be in a form reasonably satisfactory to the City Attorney. The maintenance agreement shall contain covenants, conditions and restrictions relating to the following:

1. Compliance with operational conditions applicable during any period(s) of construction or major repair (e.g., proper screening and securing of the construction site; implementation of proper erosion control, dust control and noise mitigation measure; adherence to approved project phasing etc.);

2. Compliance with ongoing operational conditions, requirements and restrictions, as applicable (including but not limited to hours of operation, security requirements, the proper storage and disposal of trash and debris, enforcement of the parking management plan, and/or restrictions on certain uses);

3. Ongoing compliance with approved design and construction parameters, signage parameters and restrictions as well as landscape designs, as applicable;

4. Ongoing maintenance, repair and upkeep of the property and all improvements located thereupon at all times (including but not limited to controls on the proliferation of trash and debris about the property; the proper and timely removal of graffiti; the timely maintenance, repair and upkeep of damaged, vandalized and/or weathered buildings, structures and/or improvements; the timely maintenance, repair and upkeep of exterior paint, parking striping, lighting and irrigation fixtures, walls and fencing, publicly accessible bathrooms and bathroom fixtures, landscaping and related landscape improvements and the like, as applicable);

5. If Developer and the owner of the property are different (e.g., if the applicant is a tenant or licensee of the property or any portion thereof), both the applicant and the owner of the property shall be signatories to the maintenance agreement and both shall be jointly and severally liable for compliance with its terms;

6. The maintenance agreement shall further provide that any party responsible for complying with its terms shall not assign its ownership interest in the property or any interest in any lease, sublease, license or sublicense, unless

the prospective assignee agrees in writing to assume all of the duties and obligations and responsibilities set forth under the maintenance agreement;

7. The maintenance agreement shall contain provisions relating to the enforcement of its conditions by the City and shall also contain provisions authorizing the City to recover costs and expenses which the City may incur arising out of any enforcement and/or remediation efforts which the City may undertake in order to cure any deficiency in maintenance, repair or upkeep or to enforce any restrictions or conditions upon the use of the property. The maintenance agreement shall further provide that any unreimbursed costs and/or expenses incurred by the City to cure a deficiency in maintenance or to enforce use restrictions shall become a lien upon the property in an amount equivalent to the actual costs and/or expense incurred by the City; and

8. The execution and recordation of the maintenance agreement shall be a condition precedent to the issuance of final approval for any construction permit related to this entitlement.

ATTACHMENT A: Attached to the Agenda as “Plans.”

ATTACHMENT B: Attached to the Staff Report as Exhibit B to Exhibit 1

ATTACHMENT C: Attached to the Staff Report as Exhibit 10

EIR No. 2020-01, GPA No. 2020-02, & AA No. 2020-01, "The Bowery"

2300, 2310, and 2320 South Redhill Avenue

The Final EIR and Technical Appendices are available online at:

https://www.santa-ana.org/pb/planning-division/major-planning-projects-and-monthly-development-project-reports/bowery

Physical copies are also available for viewing by appointment only. Please contact PlanningDepartment@santa-ana.org before visiting the Planning Division public counter located at:

20 Civic Center Plaza, Santa Ana, CA 92701

Exhibit C to Exhibit 1 – Link to EIR

EXHIBIT 4

2 - 529

Vicinity Map

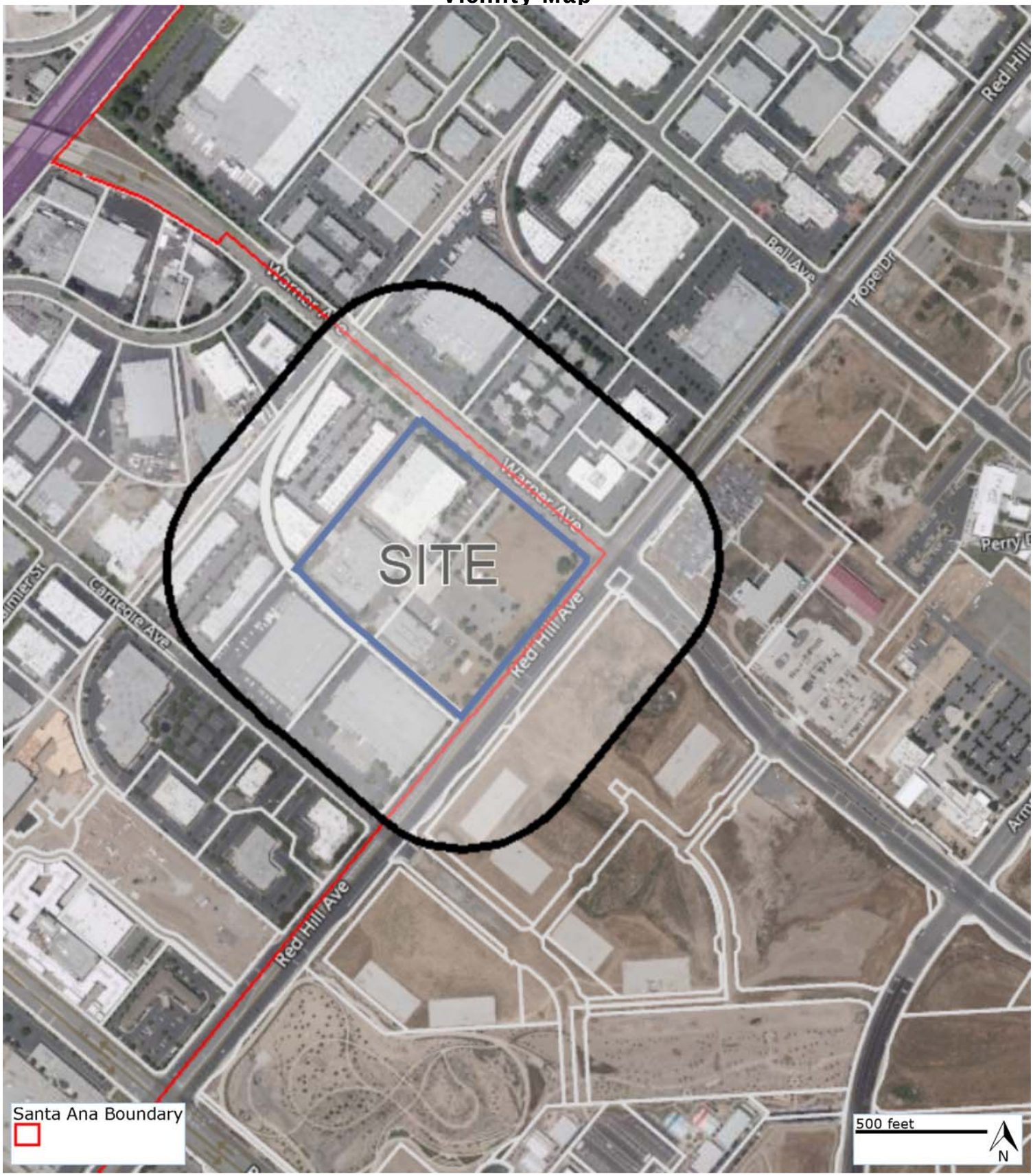


Exhibit 4

EXHIBIT 5

2 - 531

SITE PHOTOS

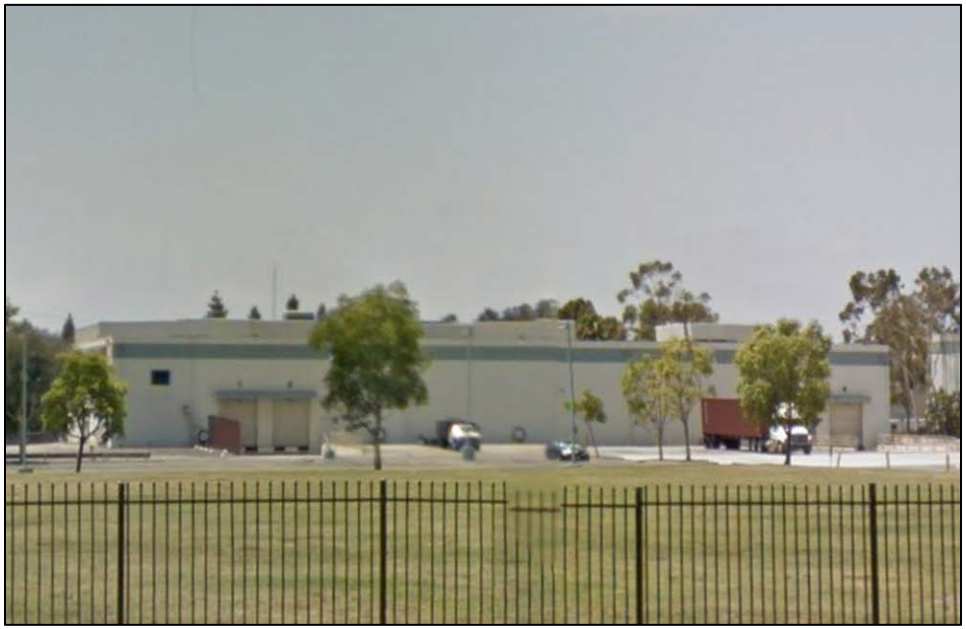


Exhibit 5

EXHIBIT 6

2 - 533

EIR No. 2020-01, GPA No. 2020-02, & AA No. 2020-01, "The Bowery"

2300, 2310, and 2320 South Redhill Avenue

The Final EIR and Technical Appendices are available online at:

https://www.santa-ana.org/pb/planning-division/major-planning-projects-and-monthly-development-project-reports/bowery

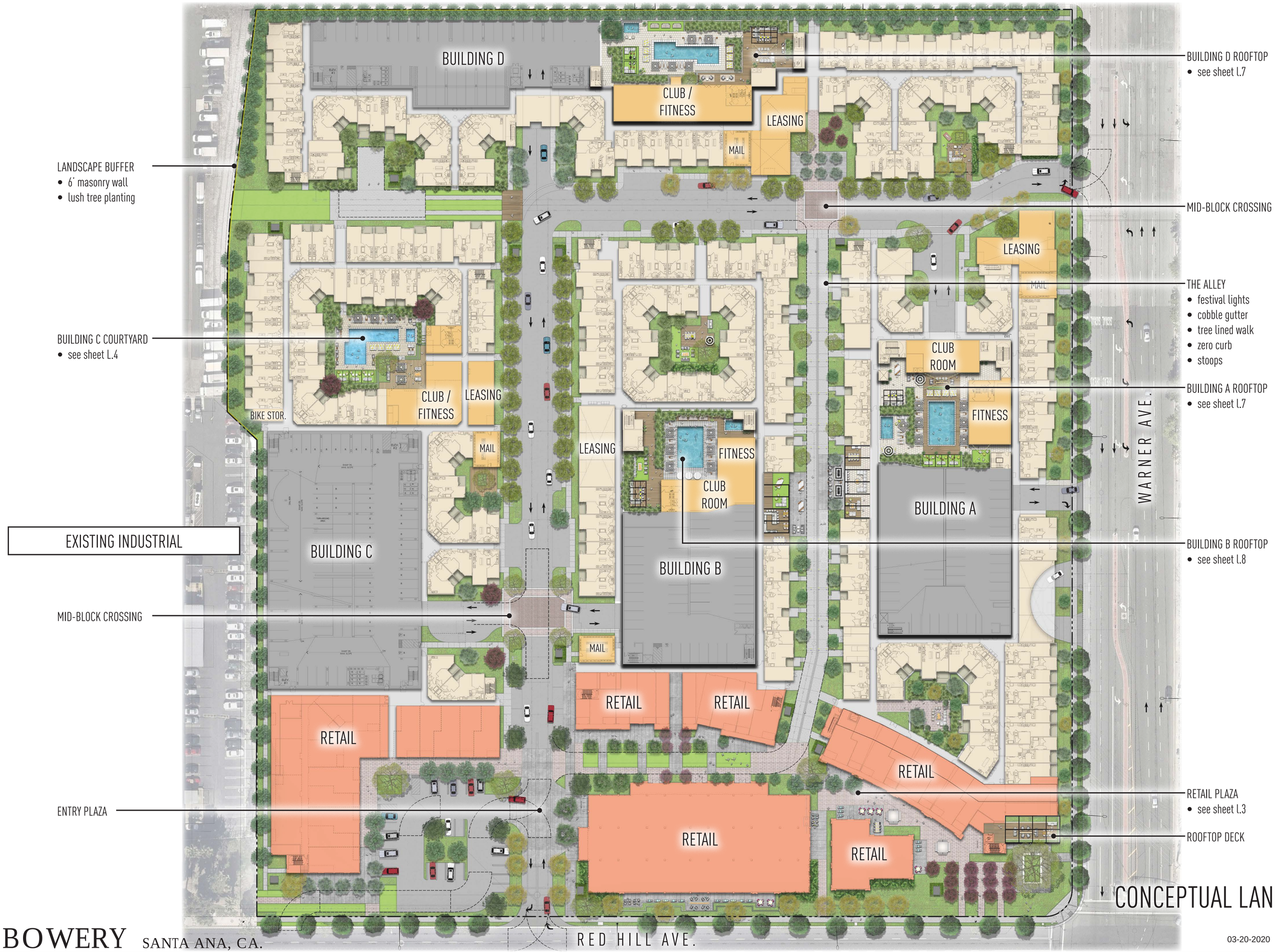
Physical copies are also available for viewing by appointment only. Please contact PlanningDepartment@santa-ana.org before visiting the Planning Division public counter located at:

20 Civic Center Plaza, Santa Ana, CA 92701

Exhibit 6 – Link to EIR

EXHIBIT 7

2 - 535



EXISTING INDUSTRIAL

LANDSCAPE BUFFER
- 6' masonry wall
- lush tree planting

BUILDING C COURTYARD
- see sheet L.4

MID-BLOCK CROSSING

ENTRY PLAZA

BUILDING D ROOFTOP
- see sheet l.7

MID-BLOCK CROSSING

THE ALLEY
- festival lights
- cobble gutter
- tree lined walk
- zero curb
- stoops

BUILDING A ROOFTOP
- see sheet l.7

BUILDING B ROOFTOP
- see sheet l.8

RETAIL PLAZA
- see sheet l.3

ROOFTOP DECK

CONCEPTUAL LANDSCAPE PLAN - L.1

THE BOWERY SANTA ANA, CA.

03-20-2020

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

0' 20' 40' 80'

MJS LANDSCAPE ARCHITECTURE

EXHIBIT 8

2 - 537

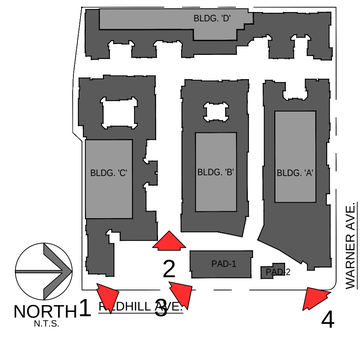
VIEW AT REDHILL LOOKING SOUTHWEST 4

VIEW AT REDHILL AVE. PROJECT ENTRY LOOKING WEST 2

VIEW AT REDHILL AVE. LOOKING NORTH 3

VIEW AT REDHILL AVE. LOOKING NORTHWEST 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.0

THE BOWERY SANTA ANA, CA.

DATE: 01.30.20
JOB NO.: 2018-174

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

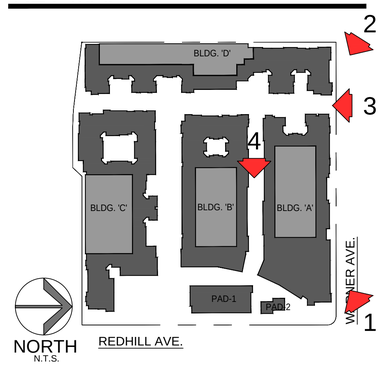
VIEW OF PASEO/FIRELANE LOOKING EAST 4

VIEW AT NORTHWEST CORNER LOOKING EAST 2

VIEW AT WARNER AVE PROJECT ENTRY LOOKING SOUTH 3

VIEW AT NORTHEAST CORNER LOOKING SOUTH 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.1

THE BOWERY SANTA ANA, CA.

DATE: 01.30.20
JOB NO.: 2018-174

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

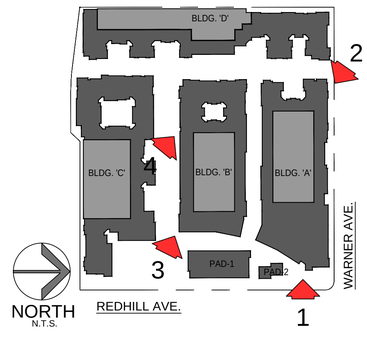
BLDG.'B' LOOKING WEST AT LEASING OFFICE 4

BLDG.'A' LOOKING EAST AT LEASING OFFICE 2

BLDG.'B' LOOKING WEST 3

BLDG.'A' LOOKING WEST 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.2

THE BOWERY SANTA ANA, CA.

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

DATE: 01.30.20
JOB NO.: 2018-174

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

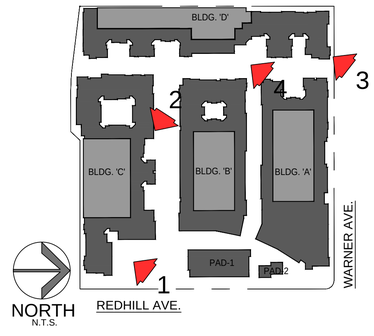
BLDG.'D' LOOKING WEST AT LEASING CENTER 4

BLDG.'C' LOOKING EAST AT LEASING CENTER 2

BLDG.'D' LOOKING WEST 3

BLDG.'C' LOOKING WEST 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.3

THE BOWERY SANTA ANA, CA.

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

DATE: 01.30.20
JOB NO.: 2018-174

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

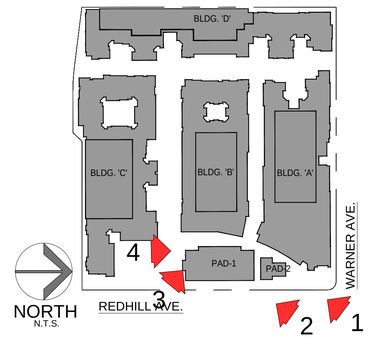
VIEW OF RETAIL PLAZA LOOKING NORTH 4

VIEW OF RETAIL BUILDINGS ALONG REDHILL AVE. 2

VIEW OF RETAIL BUILDING AT PROJECT ENTRY FROM REDHILL AVE. 3

AERIAL VIEW LOOKING SOUTHWEST 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.3a

THE BOWERY SANTA ANA, CA.

DATE: 03.23.20
JOB NO.: 2018-174

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

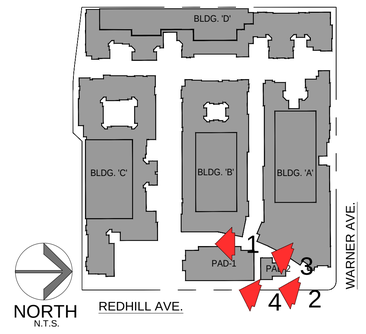
VIEW OF RETAIL BUILDING ALONG REDHILL AVE. 4

VIEW OF RETAIL BUILDINGS ALONG REDHILL AVE. 2

VIEW OF RETAIL BUILDING LOOKING SOUTH 3

VIEW OF RETAIL PLAZA LOOKING SOUTH 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.3b

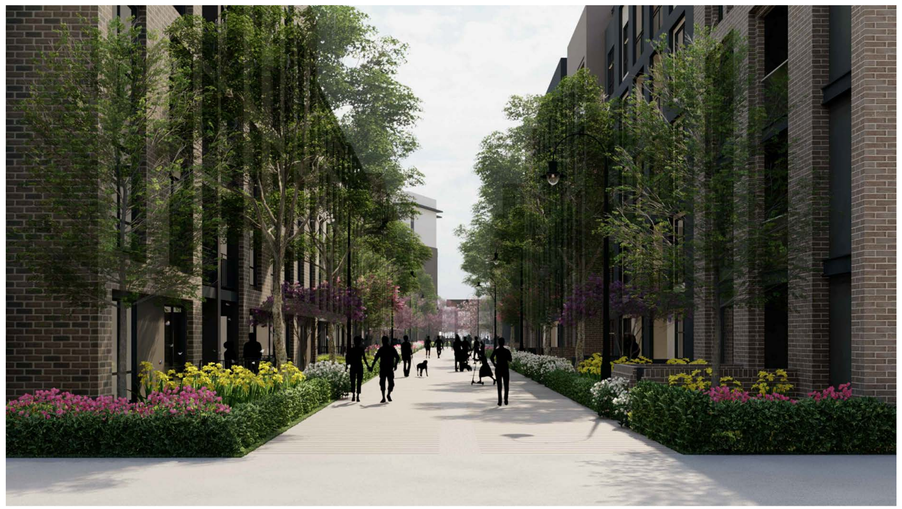
DATE: 03.23.20
JOB NO.: 2018-174

THE BOWERY SANTA ANA, CA.

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE



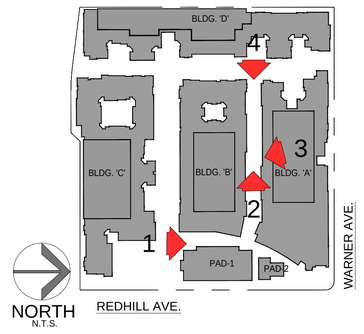
VIEW OF PASEO/FIRELANE LOOKING EAST 4

VIEW OF PASEO/FIRELANE LOOKING WEST 2

VIEW OF AMENITY DECKS 3

VIEW OF RETAIL PLAZA LOOKING NORTH 1

KEY MAP



CONCEPTUAL PERSPECTIVES

A1.3c

DATE: 03.23.20
JOB NO.: 2018-174

THE BOWERY SANTA ANA, CA.

VDC
240 NEWPORT CENTER DRIVE, SUITE 200 NEWPORT BEACH, CA. 92660
(310) 571-8227

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

ARCHITECTS ORANGE

EXHIBIT 9

2 - 545

THE BOWERY

AT 2300 SOUTH RED HILL AVENUE

MEMORANDUM

Date: **April 17, 2019**

To: **Ali Pezeshkpour, City of Santa Ana Planning and Building Agency**

From: **Ryan Gahagan, Arrimus Capital**

Re: **Report on April 15, 2019 Sunshine Ordinance Meeting**
The Bowery at 2300 South Red Hill Avenue

As a record of the May 31, 2018 public meeting on the Bowery Project, please find attached to this memorandum our report, including the following:

Affidavit
Exhibit A Mailers, Notification List
Exhibit B Site Notices
Exhibit C Notice of Meeting Published in OC Register
Exhibit D Meeting Minutes
Exhibit E Sign-In Sheet

Please contact me with any questions at Ryan@arrimus.com or 949.438.4374. Thank you.

AFFIDAVIT

Sunshine Ordinance Community Meeting The Bowery Project

I, Jeremy Ogulnick, declare as follows:

1. This declaration is made on behalf of RHW Holdings, LLC pursuant to Santa Ana Municipal Code section 2-153 ("Section 2-153"). I have personal knowledge of the fact set forth below, and am able to competently testify thereto.

2. The community meeting required by Section 2-153 was held by RHW Holdings, LLC in compliance with Section 2-153, on April 15, 2019, from 6:00pm to 7:30pm.

3. Notice of the meeting was mailed to all property owners, and at least one occupant per dwelling unit having a valid United States Postal Service address within a 500 foot radius of the project site on April 5th, 2019. True and correct copies of the mailing, as well as the notification list, are collectively attached hereto as Exhibit A.

4. Notice of the meeting was posted on the project site on April 4th, 2019. True and correct copies of the posted notices, are attached hereto as Exhibit B.

5. Notice of the meeting was published in the Orange County Register, a newspaper of general circulation within the City of Santa Ana, on April 10, 2019. A true and correct copies of the notice is attached hereto as Exhibit C.

6. Meeting minutes providing an accurate description and summary of the meeting are attached hereto as Exhibit D.

7. The meeting was conducted in an open house format, but began with opening remarks from Jeremy Ogulnick (Developer) and Ali Pezeshkpour (City Staff). Dinh Lee and RC Alley from Architects Orange (Architect) did a presentation of the elevations, site plan and unit mix. It was then opened up to questions that were answered by the Developer, Architect or City Staff.

8. The meeting was attended by 2 members of the public, see attached sign-in sheet. They did forego submitting any written comments.

Executed this date of April 17, 2019.

Jeremy Ogulnick

the Bowery

Exhibit A

The Bowery, 2300 South Red Hill Avenue, Santa Ana, CA 92705

Please Attend a Community Open House
Introducing A New Mixed-Use Project
At 2300 South Red Hill Avenue In Santa Ana

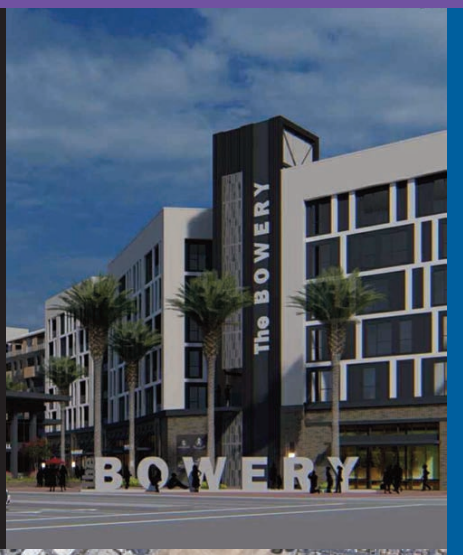
Learn about the proposed project,
provide feedback and ask questions

Meeting Date and Time:
April 15, 2019 - 6:00pm to 7:30pm
at

Spoons Grill & Bar
2601 Hotel Terrace, Santa Ana, CA 92705

If you have questions regarding this meeting or if you require language interpretation services in languages other than English, please contact us:
bowerysantaana@gmail.com

This notice is being provided pursuant to SAMC Section 2-153



Por favor unete a nosotros en una reunion comunitaria presentando
un nuevo proyecto de uso mixto en 2300 South Red Hill Avenue en Santa Ana

Aprende sobre el proyecto propuesto,proporcionar comentarios y hacer preguntas

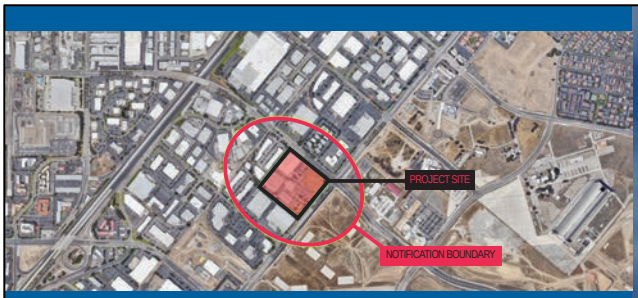
Fecha y Hora De Reunion:
15 de Abril de 2019 -- 6:00pm a 7:30pm

Ubicacion de Reunion:
Spoons Grill & Bar, 2601 Hotel Terrace, Santa Ana, CA 92705

Si tienes preguntas sober esta reunion o si necesitas servicios de interpretacion en ontro idiona, comuniquese con nosotros:

bowerysantaana@gmail.com

Este aviso se envia en acuerdo con SAMC Seccion 2-153



Please Attend a Community Open House Introducing A New Mixed-Use Project At 2300 South Red Hill Avenue In Santa Ana

Learn about the proposed project, provide feedback and ask questions

Meeting Date and Time:
April 15, 2019 - 6:00pm to 7:30pm
at

Spoons Grill & Bar
2601 Hotel Terrace, Santa Ana, CA 92705

If you have questions regarding this meeting or if you require language interpretation services in languages other than English, please contact us:
bowerysantaana@gmail.com

This notice is being provided pursuant to SAMC Section 2-153

The Bowery, 2300 South Red Hill Avenue, Santa Ana, CA 92705

Por favor unete a nosotros en una reunion comunitaria presentando un nuevo proyecto de uso mixto en 2300 South Red Hill Avenue en Santa Ana

Aprende sobre el proyecto propuesto, proporcionar comentarios y hacer preguntas

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bowerysantaana@gmail.com

Este aviso se envia en acuerdo con SAMC Seccion 2-153

430-021-01
SABIC INNOVATIVE PLASTICSUS LLC
475 CREAMERY WAY
EXTON, PA 19341

430-021-04
GEMINI INDUSTRIES INC
2311 PULLMAN ST
SANTA ANA, CA 92705

430-021-05
WHITE,WILLIAM T W T WHITE III RE
3197 AIRPORT LOOP DR A
COSTA MESA, CA 92626

430-222-07 & 16
RHW HOLDINGS LLC
240 NEWPORT CENTER DR 200
NEWPORT BEACH, CA 92660

430-222-10
~~HOLD PARCEL~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-18
JAYDEE ENTERPRISES LTD
12011 SAN VICENTE BLVD 700
LOS ANGELES, CA 90049

430-222-21
LBA & PPF INDUST-CARNEGIE LLC
PO BOX 847
CARLSBAD, CA 92018

430-231-17
1231 WARNER AVE PROPERTY COMPANY
9777 WILSHIRE BLVD 711
BEVERLY HILLS, CA 90212

430-231-23
REDHILL INVESTMENTS LLC
1444 185TH AVE
BELLEVUE, WA 98008

430-231-24
ARK INVESTMENT CONSULTING LLC
15941 RED HILL AVE
TUSTIN, CA 92780

430-231-25
RED HILL PARTNERS
15901 RED HILL AVE 100
TUSTIN, CA 92780

430-272-11
CITY OF TUSTIN
300 CENTENNIAL WAY
TUSTIN, CA 92780

430-283-02
ORANGE COUNTY RESCUE MISSION
1 HOPE DR
TUSTIN, CA 92782

930-85-401
MAGHSOODI,SHAHROUZ TRUST
28707 LA SIENA
LAGUNA NIGUEL, CA 92677

930-85-402
EWS JR PROPERTIES
636 HARBOR ISLAND DR
NEWPORT BEACH, CA 92660

930-85-403
YU CHOU LLC
1900 E WARNER AVE 1E
SANTA ANA, CA 92705

930-85-404
MAHINI,A & F S JOINT L & TRUST
15 ADRIANA
NEWPORT COAST, CA 92657

930-85-405
MADRIGAL,LUCIA
1900 E WARNER AVE 1J
SANTA ANA, CA 92705

930-85-406
RATANJEE FAMILY TRUST
2100 W LINCOLN AVE
ANAHEIM, CA 92801

930-85-407
TESTA,PIETRO
1900 E WARNER AVE 1O
SANTA ANA, CA 92705

930-85-408
SOLOMON,MARVIN RALPH TRUST
PO BOX 1152
SAN FERNANDO, CA 91341

930-85-409
JZ REALTY LLC
4040 CIVIC CENTER DR 219
SAN RAFAEL, CA 94903

930-85-410
CAMERA ALFONSO JR TRUST
52503 VIA SAVONA
LA QUINTA, CA 92253

930-85-411
MYRAN LLC
5 HARVEY CT
IRVINE, CA 92617

930-85-412
PM INVESTMENTS & HOLDINGSINC
8150 SCHOLARSHIP
IRVINE, CA 92612

930-85-414
RAGUSA JANETTE M THE RAGUSA FAMI
1 LAGO SUD
IRVINE, CA 92612

930-85-415
TAJEN GRAPHICS INC
2700 N MAIN ST 310
SANTA ANA, CA 92705

930-85-416
DERKACZ & RENDL INVESTMENT LLC
1920 E WARNER AVE 3G
SANTA ANA, CA 92705

930-85-417
JARRETT,MICHAEL D
1920 E WARNER AVE 3J
SANTA ANA, CA 92705

930-85-418
HALL CHAD T TRUST
17671 IRVINE BLVD 215
TUSTIN, CA 92780

930-85-419
CLARK,ANTHONY
215 SANTA ANA AVE
NEWPORT BEACH, CA 92663

930-85-420
NORTH COUNTY PIONEER LLC
3825 BIRCH ST
NEWPORT BEACH, CA 92660

930-85-421
ORANGE COUNTY PROPERTIES LLC
1901 CARNEGIE AVE 1A
SANTA ANA, CA 92705

930-85-422
FOOTPRINTS HEADQUARTERS LLC
57 RUSTIC CHARM
IRVINE, CA 92602

930-85-424
WILLIAMSON,SCOTT A TRUST
14062 WINDSOR PL
SANTA ANA, CA 92705

930-85-425
RIVCO PROPERTIES LLC
26697 PIERCE CIR
MURRIETA, CA 92562

930-85-427
TUNG,ALEX K
78 NEW DAWN
IRVINE, CA 92620

930-85-428
CARNEGIE PINSCO LLC
1901 CARNEGIE AVE 1Q
SANTA ANA, CA 92705

930-85-429
GONZALEZ,ADRIAN
1911 CARNEGIE AVE 2-A
SANTA ANA, CA 92705

930-85-430
BAMBECK,ROBORT J TRUST
1921 CARNEGIE AVE 3A
SANTA ANA, CA 92705

930-85-433
AIC REALTY LLC
1821 CARNEGIE AVE 3G
SANTA ANA, CA 92705

930-85-434
ELLIS,DON R TRUST
530 EMERALD BAY
LAGUNA BEACH, CA 92651

939-65-061
OLEN PROPERTIES CORP
7 CORPORATE
NEWPORT BEACH, CA 92660

939-65-088
CHANG,FRED CHIEN-YEH & SU-
PING R
51 DEL CAMBREA
IRVINE, CA 92606

939-65-089
SPATACEAN,DAVID TRUST
1193 WARNER AVE 8
TUSTIN, CA 92780

939-65-090
ONO ENT LLC
1185 WARNER AVE 9
TUSTIN, CA 92780

939-65-091
QUINN,JACK K
6010 E CHOLLA LN
PARADISE VALLEY, AZ 85253

939-65-092
STAPLETON,DANIEL
5 CAMBRIDGE CT
COTO DE CAZA, CA 92679

939-65-093
CHO,KYUNGJA
26828 DESERT LOCUS ST
MURRIETA, CA 92562

939-65-094
INDIEWORKS HOLDINGS LLC
1173 WARNER AVE
TUSTIN, CA 92780

939-65-095
WOODS ENTERPRISE LLC
1169 WARNER AVE
TUSTIN, CA 92780

939-65-096
STREAM OF PRAISE MUSIC
MINISTRIE
1165 WARNER AVE
TUSTIN, CA 92780

939-65-098
BINESH HOLDINGS LLC
2041 SWAN DR
COSTA MESA, CA 92626

939-65-099
MOLLYCORP LLC
1153 WARNER AVE
TUSTIN, CA 92780

939-65-100
SULLY EXCELSIOR LLC
2002 NANTUCKET PL
TUSTIN, CA 92780

- 55 PRINTED -
* DUPLICATE OWNERS REMOVED

430-021-01
OCCUPANT
1831 CARNEGIE AVE
SANTA ANA, CA 92705

430-021-04
OCCUPANT
2311 PULLMAN ST
SANTA ANA, CA 92705

430-021-05
OCCUPANT
1830 E WARNER AVE
SANTA ANA, CA 92705

430-222-07
OCCUPANT
2300 REDHILL AVE
SANTA ANA, CA 92705

430-222-10
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-11
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-15
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-16
OCCUPANT
2310 REDHILL AVE
SANTA ANA, CA 92705

430-222-17
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-18
~~OCCUPANT~~
~~VACANT/INDUSTRIAL MISC~~
~~SANTA ANA, CA 92705~~

430-222-19
OCCUPANT
2001 CARNEGIE AVE
SANTA ANA, CA 92705

430-222-20
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-21
OCCUPANT
1951 CARNEGIE AVE
SANTA ANA, CA 92705

430-222-22
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-222-23
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~SANTA ANA, CA 92705~~

430-231-16
~~OCCUPANT~~
~~NOT AVAILABLE~~
~~TUSTIN, CA 92780~~

430-231-17
OCCUPANT
1231 WARNER AVE
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 100
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 101
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 102
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 103
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 200
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 202
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 204
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 210
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 220
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 230
TUSTIN, CA 92780

430-231-23
OCCUPANT
15991 RED HILL AVE STE 240
TUSTIN, CA 92780

430-231-24
OCCUPANT
15941 RED HILL AVE STE 100
TUSTIN, CA 92780

430-231-24
OCCUPANT
15941 RED HILL AVE STE 200
TUSTIN, CA 92780

430-231-24
OCCUPANT
15941 RED HILL AVE STE 201
TUSTIN, CA 92780

430-231-24
OCCUPANT
15941 RED HILL AVE STE 203
TUSTIN, CA 92780

430-231-24
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15941 RED HILL AVE STE 205
TUSTIN, CA 92780

430-231-24
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15941 RED HILL AVE STE 208
TUSTIN, CA 92780

430-231-24
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15941 RED HILL AVE STE 210
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430-231-25
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15901 RED HILL AVE STE 100
TUSTIN, CA 92780

430-231-25
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15901 RED HILL AVE STE 200
TUSTIN, CA 92780

430-231-25
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15901 RED HILL AVE STE 201
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15901 RED HILL AVE STE 202
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430-231-25
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15901 RED HILL AVE STE 211
TUSTIN, CA 92780

430-272-11
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430-272-23
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430-272-31
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430-283-02
OCCUPANT
1 HOPE DR
TUSTIN, CA 92782

930-85-401
OCCUPANT
1900 E WARNER AVE 1A
SANTA ANA, CA 92705

930-85-402
OCCUPANT
1900 E WARNER AVE 1C
SANTA ANA, CA 92705

930-85-403
OCCUPANT
1900 E WARNER AVE 1E
SANTA ANA, CA 92705

930-85-404
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1900 E WARNER AVE 1G
SANTA ANA, CA 92705

930-85-405
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1900 E WARNER AVE 1J
SANTA ANA, CA 92705

930-85-406
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1900 E WARNER AVE 1L
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930-85-407
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1900 E WARNER AVE 1O
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930-85-408
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1900 E WARNER AVE 1P
SANTA ANA, CA 92705

930-85-409
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1910 E WARNER AVE 2A
SANTA ANA, CA 92705

930-85-410
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1910 E WARNER AVE 2C
SANTA ANA, CA 92705

930-85-411
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1910 E WARNER AVE 2F
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1910 E WARNER AVE 2G
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930-85-413
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1920 E WARNER AVE 3A
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930-85-414
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1920 E WARNER AVE 3P
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930-85-421
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1901 CARNEGIE AVE 1A
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1901 CARNEGIE AVE 1Q
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930-85-429
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1911 CARNEGIE AVE 2A
SANTA ANA, CA 92705

930-85-430
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1921 CARNEGIE AVE 3A
SANTA ANA, CA 92705

930-85-431
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1921 CARNEGIE AVE 3C
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1921 CARNEGIE AVE 3L
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930-85-436
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1921 CARNEGIE AVE 3N
SANTA ANA, CA 92705

939-65-061
OCCUPANT
1371 WARNER AVE STE A
TUSTIN, CA 92780

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1415 WARNER AVE STE A
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1415 WARNER AVE STE D
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1385 WARNER AVE STE A
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1391 WARNER AVE STE A
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1411 WARNER AVE STE C
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1411 WARNER AVE STE D
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939-65-069
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1405 WARNER AVE STE A
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1405 WARNER AVE STE B
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1401 WARNER AVE STE C
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1401 WARNER AVE STE D
TUSTIN, CA 92780

939-65-071
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1395 WARNER AVE
TUSTIN, CA 92780

939-65-088
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1195 WARNER AVE
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1193 WARNER AVE
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1185 WARNER AVE
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1177 WARNER AVE
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1169 WARNER AVE
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1165 WARNER AVE
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1167 WARNER AVE
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939-65-098
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1163 WARNER AVE
TUSTIN, CA 92780

939-65-099
OCCUPANT
1153 WARNER AVE
TUSTIN, CA 92780

939-65-100
OCCUPANT
1155 WARNER AVE
TUSTIN, CA 92780

- 149 PRINTED -

THE BOWERY

EXHIBIT B

COMMUNITY MEETING NOTICE

YOU ARE INVITED TO ATTEND A COMMUNITY MEETING FOR THE PROPOSED PROJECT DESCRIBED BELOW:

SUBJECT:	Proposed Mixed-Use Development
LOCATION:	2300 South Red Hill Avenue, Santa Ana CA 92705
MEETING DATE:	April 15, 2019
MEETING TIME:	6:00pm to 7:30pm
MEETING LOCATION:	Spoons Grill & Bar 2601 Hotel Terrace, Santa Ana, CA 92705

If you have questions regarding this meeting or if you require language interpretation services in languages other than English, please contact us:

CONTACT PERSON: Ryan Gahagan
PHONE: (310) 571-8227
E-MAIL: bowerysantaana@gmail.com

This notice is being provided pursuant to SAMC Section 2-153(c).

Aviso de Reunion Comunitaria

TE INVITAMOS A PARTICIPAR EN UNA JUNTA COMUNITARIA PARA EL PROYECTO PROPUESTO DESCRITO ABAJO:

TEMA: Proyecto propuesto de use mixto

LOCALIZACIÓN: 2300 South Red Hill Avenue, Santa Ana CA 92705

FECHA
DE LA REUNIÓN: 15 de Abril, 2019

HORA
DE LA REUNIÓN: 6:00pm a 7:30pm

LOCALIZACIÓN
DE REUNIÓN: Spoons Grill & Bar
2601 Hotel Terrace, Santa Ana, CA 92705

Si tienes preguntas sober esta reunion o si necesitas servicios de interpretacion en ontro idiona, comuniquese con nosotros:

PERSONA DE CONTACTO: Ryan Gahagan
TELEFONO: (310) 571-8227
CORREO ELECTRÓNICO: bowerysantaana@gmail.com

Este aviso de proporciona conforme a la Sección SAMC Section 2-153(c).

THE BOWERY

EXHIBIT C

COMMUNITY
MEETING NOTICE
YOU ARE INVITED TO ATTEND A COMMUNITY MEETING FOR
THE
PROPOSED PROJECT DESCRIBED BELOW:
SUBJECT: Proposed Mixed-Use Development
LOCATION: 2300 South Red Hill Avenue, Santa Ana CA 92705
MEETING DATE: April 15, 2019
MEETING TIME: 6:00pm to 7:30pm
MEETING LOCATION: Spoons Grill & Bar
2601 Hotel Terrace, Santa Ana, CA 92705

If you have questions regarding this meeting or if you require
language
interpretation services in languages other than English, please
contact us:
CONTACT PERSON: Ryan Gahagan
PHONE: (310) 571-8227
E-MAIL: bowerysantaana@gmail.com
This notice is being provided pursuant to SAMC Section 2-153(c).

Aviso de Reunion
Comunitaria
TE INVITAMOS A PARTICIPAR EN UNA JUNTA COMUNITARIA
PARA EL
PROYECTO PROPUESTO DESCRITO ABAJO:
TEMA: Proyecto propuesto de use mixto
LOCALIZACION: 2300 South Red Hill Avenue, Santa Ana CA 92705
FECHA
DE LA REUNION: 15 de Abril, 2019
HORA
DE LA REUNION: 6:00pm a 7:30pm
LOCALIZACION
DE REUNION: Spoons Grill & Bar
2601 Hotel Terrace, Santa Ana, CA 92705

Si tienes preguntas sober esta reunion o si necesitas servicios de
interpretacion en ontro idiona, comuniquese con nosotros:
PERSONA DE CONTACTO: Ryan Gahagan
TELEFONO: (310) 571-8227
CORREO ELECTRONICO: bowerysantaana@gmail.com
Este aviso de proporciona conforme a la Sección SAMC Section
2-153(c).

Publish: Orange County Register April 10, 2019 11257138

THE BOWERY

EXHIBIT D

Meeting Minutes

Attendees:

Jeremy Ogulnick-Developer
Dinh Lee-Architects Orange
RC Alley-Architects Orange
Jerry Guevarra- City of Santa Ana
Ali Pezeshkpour-City of Santa Ana

Attending Residents:

Ed Rendl
Performing Printing Corporation

Scott WIlliamson
Photo Design Studios

The meeting began at 6pm on April 15, 2019. It was conducted in an open house format, and began with opening remarks from Jeremy Ogulnick (Developer) and Ali Pezeshkpour (City Staff). Dinh Lee and RC Alley from Architects Orange (Architect) did a presentation of the elevations, site plan and unit mix. It was then opened up to questions that were answered by the Developer, Architect and/or City Staff.

Q&A/Comments:

Q:Do you own the entire site and will all of the existing buildings be demolished?
A: Yes, we own the entire site and all 3 buildings and our plan is to eventually demolish all 3 buildings

Q: Will there be a parking structure along the rear of the property? And will it be landscaped
A: Yes, the plan is to have a parking structure along the rear of the property and it will have landscaping between it and the property line.

Q: Will the units be for sale?
A: No, they will be rental units

Q:How many stories of parking will there be and how high?
A: There will be 6.5 levels of parking and be approximately 70 feet high

Q: Where are the entrances to the site?
A: There will be one on Red Hill and possibly 2 on Warner.

Q:Will there be any improvements done to Warner Ave?
A: We are not sure yet, it will depend on the results of the technical studies.

Q:What impact will building residential next to where marijuana use is permitted?
A: There will not be any impact. The map that the city has published will dictate where that use is permitted. It will not change because of residential being approved nearby.

Q: How long before this gets approved and built.
A. It will depend on how long approvals take but we anticipate going to City Council at the end of this year. Construction will start approximately 1 year after approvals. Construction will take approximately 2.5 years once permits are issued.

Q: Can you show us a view from the property that Ed owns?
A: Yes, we will provide an elevation

Q: Is this project in the City of Tustin?
A:No, it is in the City of Santa Ana

Q: How many levels are residential?
A:5

Q:How many levels of parking for building C?
A 6.5

Q:Is there a driveway West of building C?
A:

Q:What is to be done with the wall between your site and the one to the West?
A:We will replace it.

The meeting ended at 7:30pm.

THE BOWERY

EXHIBIT E

The Bowery

REGISTRATION - REGISTRO

Please register your information • Por favor registra tu información

Name (Nombre): Jerry Guevara
Company (Compañía): City of Santa Ana
Email (E-Mail): jguevara@santa-ana.org
Phone (Teléfono): (714) 647-5481

Name (Nombre): Ed Rendl
Company (Compañía): Pro forma Printing Corporation
Email (E-Mail): ed@proformaprinting.com
Phone (Teléfono): 949-296-1999

Name (Nombre): SCOTT WILLIAMSON
Company (Compañía): PHOTODESIGN STUDIOS
Email (E-Mail): SCOTT@PHOTODESIGNSTUDIOS.COM
Phone (Teléfono): 949 261 2550
949 632 6719 CELL

Name (Nombre):
Company (Compañía):
Email (E-Mail):
Phone (Teléfono):

Name (Nombre):
Company (Compañía):
Email (E-Mail):
Phone (Teléfono):

Name (Nombre):
Company (Compañía):
Email (E-Mail):
Phone (Teléfono):

Name (Nombre):
Company (Compañía):
Email (E-Mail):
Phone (Teléfono):

Name (Nombre):
Company (Compañía):
Email (E-Mail):
Phone (Teléfono):

TITLE PRO IS
TITLE PRO INFORMATION SYSTEMS

13520 Scarsdale Way
San Diego, CA 92128
www.titleprois.com

CERTIFICATION

I SEAN WILSON/ TITLE PRO INFORMATION SYSTEMS HEREBY CERTIFY THAT THE ATTACHED LIST CONTAINS THE NAMES, ADDRESSES AND PARCEL NUMBERS OF ALL PERSONS TO WHOM ALL PROPERTY IS ASSESSED AS THEY APPEAR ON THE LATEST AVAILABLE ASSESSMENT ROLL OF THE COUNTY WITHIN THE AREA DESCRIBED AND REQUESTED BY YOU THE CLIENT, THE REQUIRED RADIUS MEASURED FROM THE EXTERIOR BOUNDARIES OF THE PROPERTY REQUESTED AND DESCRIBED AS:

APN:
430-222-07 & 16 500FT
PLAT DATE: 03/29/2019
COUNTY OF: ORANGE
CITY OF: SANTA ANA

Sean Wilson

SEAN WILSON
TITLE PRO INFORMATION SYSTEMS

DATE:
04/02/2019

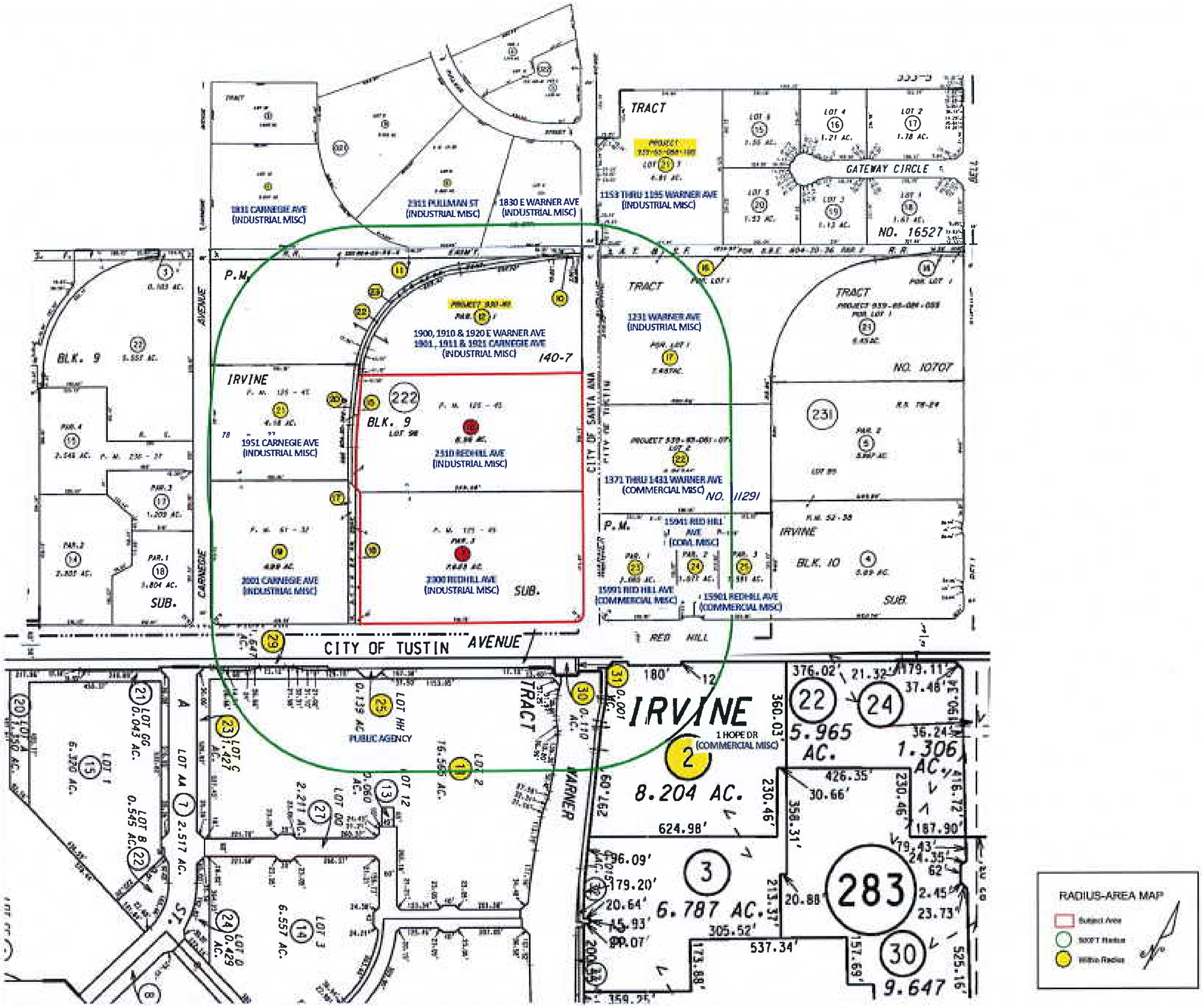
1831 CARNEGIE AVE (INDUSTRIAL MISC)
2311 PULLMAN ST (INDUSTRIAL MISC)
1830 E WARNER AVE (INDUSTRIAL MISC)
TRACT
PROJECT 939-65-081-100
1153 THRU 1195 WARNER AVE (INDUSTRIAL MISC)
GATEWAY CIRCLE
NO. 16527
P.M.
PROJECT 930-90
1900, 1910 & 1920 E WARNER AVE
1901, 1911 & 1921 CARNEGIE AVE
(INDUSTRIAL MISC)
140-7
TRACT
1231 WARNER AVE (INDUSTRIAL MISC)
TRACT
PROJECT 939-65-084-055
NO. 10707
BLK. 9
IRVINE
222
BLK. 9
1951 CARNEGIE AVE (INDUSTRIAL MISC)
2310 REDHILL AVE (INDUSTRIAL MISC)
CITY OF SANTA ANA
CITY OF TUSTIN
231
1371 THRU 1431 WARNER AVE (COMMERCIAL MISC)
NO. 11291
15941 RED HILL AVE (COML MISC)
IRVINE
BLK. 10
CARNEGIE
AVENUE
2001 CARNEGIE AVE (INDUSTRIAL MISC)
2300 REDHILL AVE (INDUSTRIAL MISC)
SUB.
SUB.
15991 RED HILL AVE (COMMERCIAL MISC)
15901 REDHILL AVE (COMMERCIAL MISC)
SUB.
CITY OF TUSTIN AVENUE
RED HILL
TRACT
IRVINE
1 HOPE DR (COMMERCIAL MISC)
LOT HH
PUBLIC AGENCY
WARNER
5.965 AC.
1.306 AC.
8.204 AC.
6.787 AC.
283
9.647
RADIUS-AREA MAP
Subject Area
500FT Radius
Within Radius

EXHIBIT 10

2 - 570

LINSCOTT LAW & GREENSPAN engineers

Revised Parking Study and Parking Management Plan The Bowery

City of Santa Ana

May 5, 2020

LINSCOTT LAW & GREENSPAN engineers

REVISED PARKING STUDY AND PARKING MANAGEMENT PLAN

THE BOWERY

Santa Ana, California

May 5, 2020

(original dated April 28, 2020)

Engineers & Planners

Traffic

Transportation

Parking

LINSCOTT LAW & GREENSPAN
engineers

Engineers & Planners
Traffic
Transportation
Parking

Linscott, Law & Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

Pasadena
Irvine
San Diego
Woodland Hills

May 5, 2020

Mr. Jeremy Ogulnick
RHW Holdings, LLC
240 Newport Center Drive, Suite 200
Newport Beach, CA 92660

LLG Reference: 2.20.4274.1

Subject: **Parking Study and Parking Management Plan for the The Bowery Santa Ana, California**

Dear Mr. Ogulnick:

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Parking Study for the proposed The Bowery Project (hereinafter referred to as Project) in the City of Santa Ana, California. The Bowery Project is a proposed mixed-use residential apartment project consisting of 1,100 apartment units with 80,000 SF of retail/commercial space to be located south of Warner Avenue and west of Red Hill Avenue in the City of Santa Ana, California.

It is our understanding that a parking study is needed to validate the parking demand and adequacy of proposed parking supply for the retail/commercial portion of the Project as well as the proposed parking supply of the Project's residential component in comparison to the City requirements as outlined in *Article XV – Off-Street Parking* of the Municipal Code.

Pursuant to our coordination efforts, prior work experience on similar projects, and understanding of the City of Santa Ana requirements, the preparation of a Parking Study, inclusive of a Parking Management Plan (PMP) is required to ensure adequate parking for all Project tenants, employees and guests, and reduce or eliminate any parking intrusion on the adjacent commercial properties. This PMP is intended to be used to ensure that the Project's parking supply will be sufficient to accommodate the actual parking demand for both the Project's retail/commercial component as well as the Project's residential component.

PROJECT DESCRIPTION AND MULTIMODAL SETTING

The Bowery Project is a proposed mixed-use residential apartment project to be located south of Warner Avenue and west of Red Hill Avenue in the City of Santa Ana, California. The Project site is a square shaped parcel of land totaling 14.69±-acres and that is currently developed with three (3) industrial buildings with a total floor area of 212,121 square-feet (SF). ***Figure 1*** is an existing aerial photograph of the Project site.

Based on the review of the Project Site Plan, prepared by AO, the proposed Project includes the development of four (4) buildings, identified as Building A through Building D, with a total of 1,100 apartment units and 80,000 square-feet (SF) of retail/commercial space consisting of 44,000 SF of retail space, 24,000 SF of restaurant/food uses, and a 12,000 SF health/fitness club, all of which front Red Hill Avenue. Parking for the Project will be provided within four (4) parking structures with a combined parking supply of 2,546 spaces and 54 space surface parking lot for a total supply of 2,600 spaces. Of this total supply, 400 spaces are allocated for use by the retail/commercial component of the Project

Under the current Project site plan, individually, Building A includes the development of a 280-unit apartment podium, consisting 63 studio units, 144 one-bedroom units, 73 two-bedroom, and zero (0) three-bedroom units wrapped around a 7-level 705-space parking structure with a 12,000 SF retail building and 4,000 SF pad building.

Building B includes the development of a 244-unit apartment podium, consisting 35 studio units, 136 one-bedroom units, 68 two-bedroom, and five (5) three-bedroom units, wrapped around a 7-level 592-space parking structure and 16 surface parking spaces, with 24,000 SF building to be equally occupied by retail space and a fitness/health club and 20,000 SF building with a mix of restaurant/food uses.

Building C includes the development of a 322-unit apartment podium, consisting 79 studio units, 149 one-bedroom units, 89 two-bedroom, and five (5) three-bedroom units with 20,000 SF of retail shops space, wrapped around a 7-level 743-space parking structure with an additional 36 spaces provided in a surface lot.

Lastly, Building D includes the development of a 254-unit apartment podium, consisting 50 studio units, 146 one-bedroom units, 53 two-bedroom, and five (5) three-bedroom units wrapped around a 6-level 506-space parking structure plus 2 surface parking spaces.

It should be noted that the total parking supply of 2,600 spaces includes 49 spaces via the use of valet/valet assist for the Project's retail/commercial component and 212 spaces via the installation of vehicle lifts for the Project's residential component. ***Table 1***, attached to this proposal, provides a summary of the Project development, inclusive of the Project's proposed parking supply based on information provided by AO, dated 04/24/2020, inclusive of 130 2nd access (Tandem) stalls. ***Figure 2*** presents the proposed site plan, prepared by AO.

Project's Pedestrian Connections

Pedestrian circulation would be provided via existing public sidewalks along Red Hill Avenue and Warner Avenue which will connect to the project site. The project will protect the existing sidewalk along project frontage, and if necessary, repair or reconstruct sidewalks along the project frontage per the City's request. The existing sidewalk system within the project vicinity provides direct connectivity to the City of Santa Ana, Irvine and Tustin along with connectivity to the Tustin Metrolink Station located on Edinger Avenue west of Jamboree Road. From the project site, it would take approximately 54 minutes to walk to the Tustin Metrolink Station that is 2.8 miles from the site.

Project's Proximity to Public Transit

Public transit bus service for the Project site is adequate and is provided in the project area by the Orange County Transportation Authority (OCTA). Eleven (11) OCTA bus routes operate within the vicinity of the project site on Main Street, Standard Avenue, Grand Avenue, Dyer Road, Edinger Avenue, Red Hill Avenue, Warner Avenue, SR-55 and Von Karmen Avenue, which consists of the following:

- OCTA Route 53: The major route of travel is Main Street. Nearest to the project site are bus stops on Main Street – northbound and southbound west of the intersection with Red Hill Avenue. Route 53 operates on approximate 30-minute headways during weekdays and 20-minute headways on weekends.

- OCTA Route 55: The major routes of travel include Main Street and Standard Avenue. Nearest to the project site are bus stops on Standard Avenue – northbound and southbound west of the intersection with Warner Avenue. Route 55 operates on approximate 30-minute headways on the weekdays and weekends.

- OCTA Route 59: The major routes of travel include Grand Avenue, Dyer Road, and Barranca Parkway. Nearest to the project site are bus stops on Dyer Road – eastbound and westbound south of the intersection with Red Hill Avenue. Route 59 operates on approximate 30-minute headways on the weekdays and 60-minute headways on the weekends.

- OCTA Route 70: The major route of travel is Edinger Avenue. Nearest to the project site are bus stops on Edinger Avenue – northbound and southbound east and west of the intersection with Red Hill Avenue. Route 70 operates on approximate 30-minute headways on the weekdays and weekends.

- OCTA Route 71: The major route of travel is Red Hill Avenue. Nearest to the project site are bus stops on Dyer Road– northbound and southbound east of the intersection with Red Hill Avenue. Route 71 operates on approximate 30-minute headways on the weekdays and 45-minute headways on the weekends.

- OCTA Route 72: The major route of travel is Warner Avenue. Nearest to the project site are bus stops on Warner Avenue – eastbound and westbound west of the intersection with Red Hill Avenue. Route 72 operates on approximate 30-minute headways during weekdays and 45-minute headways on weekends.

- OCTA Route 86: The major route of travel is Main Street. Nearest to the project site are bus stops on Red Hill Avenue – eastbound and westbound east and west of the intersection with Red Hill Avenue. Route 86 operates on approximate 40-minute headways on the weekdays and no service on the weekends.

- OCTA Route 90: The major route of travel is Edinger Avenue. Nearest to the project site are bus stops on Edinger Avenue. – eastbound and westbound east of the intersection with Red Hill Avenue. Route 90 operates on approximate 30-minute headways on the weekdays and 75-minute headways on the weekends.

- OCTA Route 213: The major route of travels includes SR-55 and Von Karmen Avenue. Nearest to the project site are bus stops on Von Karmen Avenue – eastbound and westbound west of the intersection with Michelson Drive. Route 213 operates on approximate 40-minute headways on the weekdays and no service on the weekends.

- OCTA Route 463: The major route of travel is Grand Avenue. Nearest to the project site are bus stops on Grand Avenue – northbound and southbound east of the intersection with Warner Avenue. Route 463 operates on approximate 30-minute headways on the weekdays and no service on the weekends.

- OCTA Route 472: The major route of travel is Red Hill Avenue. Nearest to the project site are bus stops on Red Hill Avenue – northbound and southbound east of the intersection with Warner Avenue. Route 472 operates on approximate 35-minute headways on the weekdays and no service on the weekends

Figure 3 graphically illustrates the transit routes of OCTA within the vicinity of the project. ***Figure 4*** identifies the locations of the existing bus stops in proximity to the Project site.

It is noted that based on review of *Section 5.14 SB743 Compliance of The Bowery Traffic Impact Analysis prepared by E | P | D Solutions, dated December 12, 2019,* it was concluded that the proposed Project would have a less than significant VMT impact since the Project site is located adjacent to existing transit service with an interval of approximately 6 minutes (Bus Route 71, 72 and 472) during the peak commute hours and is located within a 2040 High-Quality Transit Area per SCAG GIS data.

Project's Proximity to Bicycle Facilities

The City of Santa Ana, Irvine and Tustin all promote bicycling as a means of mobility and a way in which to improve the quality of life within its community. The Bikeway Master Plan recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the City. Currently, not many bicycle facilities exist in the study area, with the exception of a Class I bike lane along Red Hill Avenue, between Warner Avenue and Alton Avenue. In addition, a Class II bike lanes along Grand Avenue and Edinger Avenue, between Edinger Avenue and Dyer Road and between Chestnut Avenue and Dyer Road. Class I bike lanes along Valencia Avenue, Armstrong Avenue, east of Barranca Parkway. ***Figure 5, 6*** and *7*, which presents the City Santa Ana, Irvine and Tustin Bikeway Master Plans, respectively.

RETAIL/COMMERCIAL PARKING REQUIREMENTS

The code parking calculation for the retail/commercial component of the proposed Project is based on the City's requirements as outlined in *Article XV – Off-Street Parking* of the Municipal Code. The City's Municipal Code specifies the following parking requirements:

- **Retail stores and services uses:** 5 space for each 1000 SF of gross floor area (GFA).
- **Restaurants cafes, etc:** 8 space for each 1000 SF of GFA, with a minimum of 10 spaces.
- **Exercise gym, spas, health clubs, etc.:** 1 space for each 180 SF of floor area devoted to physical activity other than racquetball or handball (exclusive of locker rooms, shower facilities, utility rooms and ancillary public areas). [1]

Retail/Commercial Parking Supply

Based on review of *Table 1*, parking for the retail/commercial component of the Project will be provided via combination of structured parking and surface parking. As shown, a total of 339 "1st access" spaces will be provided, which will be supplemented by an additional 12 "2nd access (tandem)" spaces provided within the Project's parking structures, and 49 "valet/valet assist" spaces for a total supply of 400 stalls (339 + 12 + 49 = 400).

City Code Parking Requirements

Assuming 80,000 SF of retail space, the Project's retail/commercial parking supply of 400 spaces would satisfy the City code requirement of 400 spaces.

However, when applying the City's parking ratios to the Project's potential mix of 44,000 SF of retail space, 24,000 SF of restaurant/food uses, and a 12,000 SF health/fitness club, a code parking requirement of 445 parking spaces is calculated. With a proposed retail/commercial parking supply of 400 spaces, a shortfall of 45 spaces is forecast when compared to City requirements.

Shared Parking Analysis

To validate the adequacy of the proposed retail/commercial parking supply of 400 spaces with the Project's proposed mix of uses/tenants, a shared parking analysis has

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[1] Since the floor plan for the proposed health club is unknown at this time the physical activity area is assumed to be 50% of the GFA.

been prepared based on the utilization profile of each included land use component. The following section calculates the parking requirements for Project based on the shared parking methodology outlined in ULI *Shared Parking, 2nd Edition*.

The specific tenancy mix of the Project provides an opportunity to share parking spaces based on the utilization profile of each included land use component. The parking ratios identified above have been used directly for incorporation into a shared parking analysis consistent with the methodology outlined in the Urban Land Institute (ULI) and published in *Shared Parking, 2nd Edition*. Based on the results of this shared parking assessment, the adequacy of the Project's retail/commercial component parking supply of 400 spaces can be determined.
Key inputs in the shared parking analysis for each land use include:

- Peak parking demand by land use for visitors and employees.
- Adjustments for alternative modes of transportation, if applicable.
- Adjustment for internal capture (captive versus non-captive parking demand), if applicable.
- Hourly variations of parking demand.
- Weekday versus weekend adjustment factors
- Monthly adjustment factors to account for variations of parking demand over the year.
- Applicable parking ratios per *Article XV – Off-Street Parking* in the City of Santa Ana Municipal Code

For this analysis, a conservative 5% parking adjustment was utilized to account for "walk-in" trips attributable to synergy between uses and the residential component of The Bowery and adjoining retail/commercial component. These adjustments are representative of the interaction between the Project's uses.

Tables 2 and ***3*** present the overall weekday and weekend parking demand profiles for the retail/commercial component of the Project based on the shared parking methodology. Columns (1) through (3) of these tables present the parking accumulation characteristics and parking demand of the proposed uses for the hours of 6:00 AM to midnight. Columns (4) through (5) presents the expected joint-use parking demand for the Center on an hourly basis and further presents the hourly parking surplus/deficiency for the proposed Project compared to the parking supply of 400 spaces.

Review of *Tables 2* and *3* indicates that the future full occupancy weekday peak retail/commercial parking demands will occur at 12:00 PM with peak demands of 332 spaces. Based on the proposed retail/commercial parking supply of 400 spaces, the peak demand hours on a weekday will yield a surplus of 68 spaces. On a weekend

the peak parking demand will occur at 12:00 PM with a peak demand of 374 spaces resulting in a surplus of 26 spaces. ***Appendix A*** contains the detailed weekday and weekend shared parking worksheets.

Figures 8 and ***9*** graphically illustrate the weekday and weekend hourly parking demand forecast for the proposed Project retail/commercial component, respectively. Each of the anticipated land use component/tenant mix and its corresponding hourly Shared Parking demand for various mixes of uses, which were presented in *Tables 2* and *3*, are depicted in these two figures relative to a proposed parking supply of 400 spaces, of which 12 spaces are 2nd access (tandem) stalls and 49 spaces are valet/valet assist spaces. A review of these figures indicates that the Project's parking supply of 400 spaces will adequately accommodate The Bowery's proposed retail/commercial uses on weekday and weekend hourly shared parking demand. Further yet, based on the results of this analysis, the use of valet/valet assist spaces would only be necessary on weekends for the time period between 11:00 AM and 10:00 PM; although the weekday parking demand may not necessitate the need for valet/valet assists spaces, the use of these spaces during the weekday midday period of 11:00 AM to 2:00 PM would be an enhanced service that would support the "lunch time" crowd of the proposed restaurant/food uses.

Therefore, we conclude that there is adequate parking on site to accommodate the Project's retail/commercial component shared parking demand and is reliant on the implementation of a "valet/valet assist" program as proposed. Based on LLG's experience, the results presented as part of the share parking assessment represent the most pragmatic approach to future parking conditions.

RESIDENTIAL PARKING REQUIREMENTS

Parking Requirements per City Code Requirements

To determine the number of parking spaces required to support the proposed Project residential uses, the parking requirement was calculated based on parking information published in the *City of Santa Ana Municipal Code Article XV – Off-Street Parking.* The following parking ratio was used to determine the required parking:

a) The minimum off-street parking requirements for each dwelling unit in multiple-family dwellings are as follows: one (1) space in a garage or carport.

b) Each multi-family dwelling site shall provide off-street parking spaces, in addition to the minimum requirements of subsection (a) of this section, in an amount not less than the number of bedrooms on the site. Such spaces may be open or covered and may be assigned to particular units or not so assigned. Bachelor units shall be considered as one-bedroom units.

Pasadena. Additional details for the comparable sites is also provided inclusive of the location, development summary, parking facility type, parking supply, and presence of ground floor retail.

Review of the rightmost column of *Table 5* presents the tenant and guest peak parking ratio (spaces per DU) for each of the twelve comparable sites. This array of peak parking rates yields an average ratio of 1.35 spaces per unit, an 85th percentile ratio of 1.48 spaces per unit, and a 95th percentile ratio of 1.61 spaces per unit. Given the above, LLG concludes that the parking ratios derived from the twelve comparable sites are accurate representations for the unique parking characteristics of the proposed Project that are not reflected in the City Code ratio.

Parking Generation (5th Edition) published by the Institute of Transportation Engineers (ITE), and *Shared Parking* (2nd Edition) published by the Urban Land Institute (ULI), as well as other reference materials for the cities of Ontario and Rancho Cucamonga, San Bernardino County, and Riverside County, provide peak parking ratios for apartment complexes, as summarized in the lower portion of *Table 5*. These parking ratios range from 0.98 spaces per unit (average ratio per ITE) to 1.66 spaces per unit (field studies in Ontario and Rancho Cucamonga).

In order to provide more context behind the location and parking-related characteristics for the most relevant sites in *Table 5*, we have compiled the following information with regards to land use setting, proximity to public transit, and availability of off-site parking (i.e., on-street spaces, nearby off-site parking spaces):

Project/The Bowery
There is no on-street parking or other public parking facilities in the immediate vicinity of the site. There are existing bus stops located nearby, specifically at the intersections of Red Hill Avenue at Warner Avenue. The Tustin Metrolink Station is located just under two mile to the northeast of the site.

Main Street Village: 2555 Main Street, Irvine (1.42 spaces per DU)
There is no on-street parking or other public parking facilities in the immediate vicinity of the site. There are existing bus stops located nearby, specifically at the intersections of Siglo/Main Street and Jamboree Road/Main Street. The nearest Park & Ride lot is located about 1.5 miles to the southeast of Main Street Village, near the intersection of Culver Drive at Sandburg Way. The adjoining land uses to Main Street Village consist of mostly office and residential uses.

Paragon at Old Town: 700 S. Myrtle Avenue, Monrovia (1.48 spaces per DU)
On-street parking is generally permitted in the vicinity of the site, most notably along Myrtle Avenue (north of Walnut Avenue), Olive Avenue, Walnut Avenue, and Ivy Avenue. The nearest existing bus stop is located at the intersection of Primrose

Avenue/Walnut Avenue. An existing Park & Ride lot and Metro Light Rail station is located about 0.7 miles to the south of Paragon at Old Town, near the intersection of Myrtle Avenue/Duarte Road. The adjoining land uses to Paragon at Old Town consist of shopping/food uses to the north, residential uses to the east, and office/warehouse building to the south and west.

Trio Apartments: 44 N. Madison Avenue, Pasadena (1.22 spaces per DU)

On-street parking is generally permitted in the vicinity of the site, most notably along Madison Avenue, Colorado Boulevard, and Union Street. Further, several paid public parking lots are located nearby, including on the west side of Madison Avenue and a few south of Colorado Boulevard. Existing bus stops are located at the intersection of El Molino Avenue/Union Street, as well as various bus stops located Colorado Boulevard. An existing Park & Ride lot is located about 0.5 miles to the northwest of Trio Apartments, near the intersection of Marengo Avenue/Walnut Street. Further, existing Metro Light Rail stations are located at Lake Street/I-210 Freeway (about 0.5 miles from Trio Apartments) and near Raymond Avenue/Holly Street (about 0.5 miles from Trio Apartments). The adjoining land uses to Trio Apartments consist of mostly office and commercial uses.

Adagio on the Green: 2660 Oso Parkway, Mission Viejo (1.45 spaces per DU)

There is no on-street parking or other public parking facilities in the immediate vicinity of the site. Existing bus stops are located nearby, specifically at the intersections of Country Club Drive/Oso Parkway and Marguerite Parkway/Oso Parkway. There is no Park & Ride facility in the nearby vicinity of Adagio on the Green. The adjoining land uses to Adagio on the Green consist of mostly residential uses, with a golf course to the north and south of Oso Parkway and some commercial uses.

Skye at Laguna Niguel: 28100 Cabot Road, Laguna Niguel (1.49 spaces per DU)

There is no on-street parking or other public parking facilities in the immediate vicinity of the site. The nearest existing bus stop is located at the intersection of Cabot Road/Crown Valley Parkway. An existing Park & Ride lot and Metrolink train station is located immediately east of the SR-73 Freeway, along Forbes Road (about 0.2 miles from Skye at Laguna Niguel). The adjoining land uses to Skye at Laguna Niguel consist of mostly residential uses, with commercial uses to the east.

Apex Laguna Niguel: 27960 Cabot Road, Laguna Niguel (1.28 spaces per DU)

There is no on-street parking or other public parking facilities in the immediate vicinity of the site. The nearest existing bus stop is located at the intersection of Cabot Road/Crown Valley Parkway. An existing Park & Ride lot and Metrolink train station is located about 0.3 miles to the southeast from Apex Laguna Niguel, along Forbes

Road. The adjoining land uses to Apex Laguna Niguel consist of mostly residential uses, with commercial uses to the east.

Based on the above descriptions of six existing sites, locational and parking-related characteristics are similar and comparable to the Project (i.e., not located in a TOD/Transit-Oriented Development, with no off-site parking nearby, which can reduce on-site parking needs), with their empirical parking demand ratios considered to be indicative of the Project's potential parking needs. The Project will be providing a supply of 2,200 spaces, which, when divided by 1,100 dwelling units, corresponds to a parking supply ratio of 2.0 spaces per dwelling unit, inclusive of 212 "car lift" spaces. This supply ratio is greater than the empirical ratios from the six comparable sites most similar to the Project and helps validate adequacy of parking for the Project.

Residential Component Parking Supply

Based on review of *Table 1*, parking for the residential component of the Project will be primarily provided via structured parking, plus two (2) surface stalls. As shown, a total of 1,870 "1st access" spaces will be provided, which will be supplemented by an additional 118 "2nd access (tandem)" spaces provided within the Project's parking structures, and 212 "car lift" spaces for a total supply of 2,200 stalls (1,868 + 2 + 118 + 212 = 2,200). The Project's proposed residential parking supply of 2,200 spaces allows for the provisions one parking space per bedroom, which total 1,413 bedrooms, with a remaining balance of 787 spaces that could be used to accommodate residential guest parking demand and/or additional parking demand of future residents.

Project Residential Parking Supply versus Demand

The bottom portion of *Table 5* estimates the project's parking needs based on the application of the average, 85th percentile, and 95th percentile parking rates from comparable sites. For the 1,100 units as now proposed, it is estimated that the average demand would be 1,518 spaces, the 85th percentile demand would be 1,628 spaces, and the 95th percentile demand would be 1,771 spaces. Comparing the 95th percentile demand of 1,771 spaces against the proposed supply of 2,200 spaces yields a surplus of 429 spaces. Given these results, we conclude that the proposed residential parking supply of 2,200 spaces is more than adequate and will satisfy the Project's residential parking demands.

To maintain adequate parking supply at all times, it is recommended that a Parking Management Plan (PMP) be implemented to ensure parking is available for all users, inclusive of determining, based on the actual needs of the Project, and when the use of "car lifts" would be necessary in the future.

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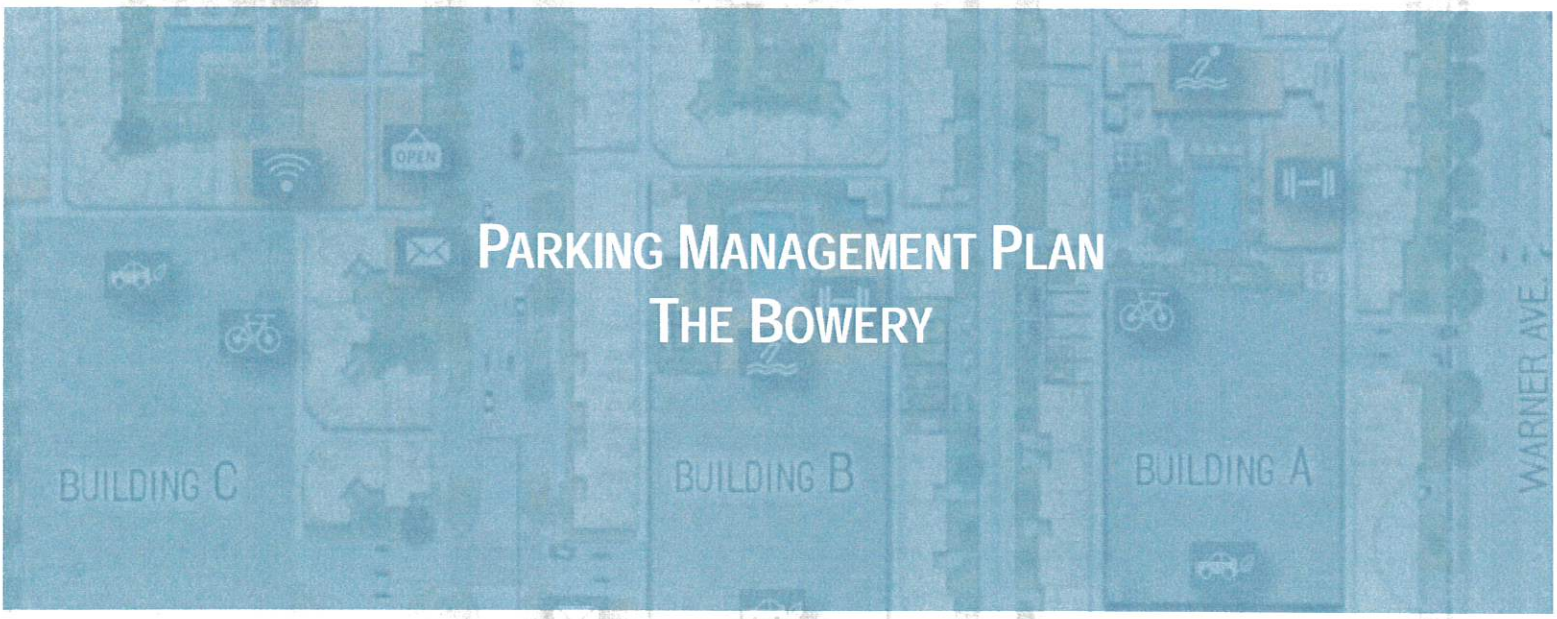
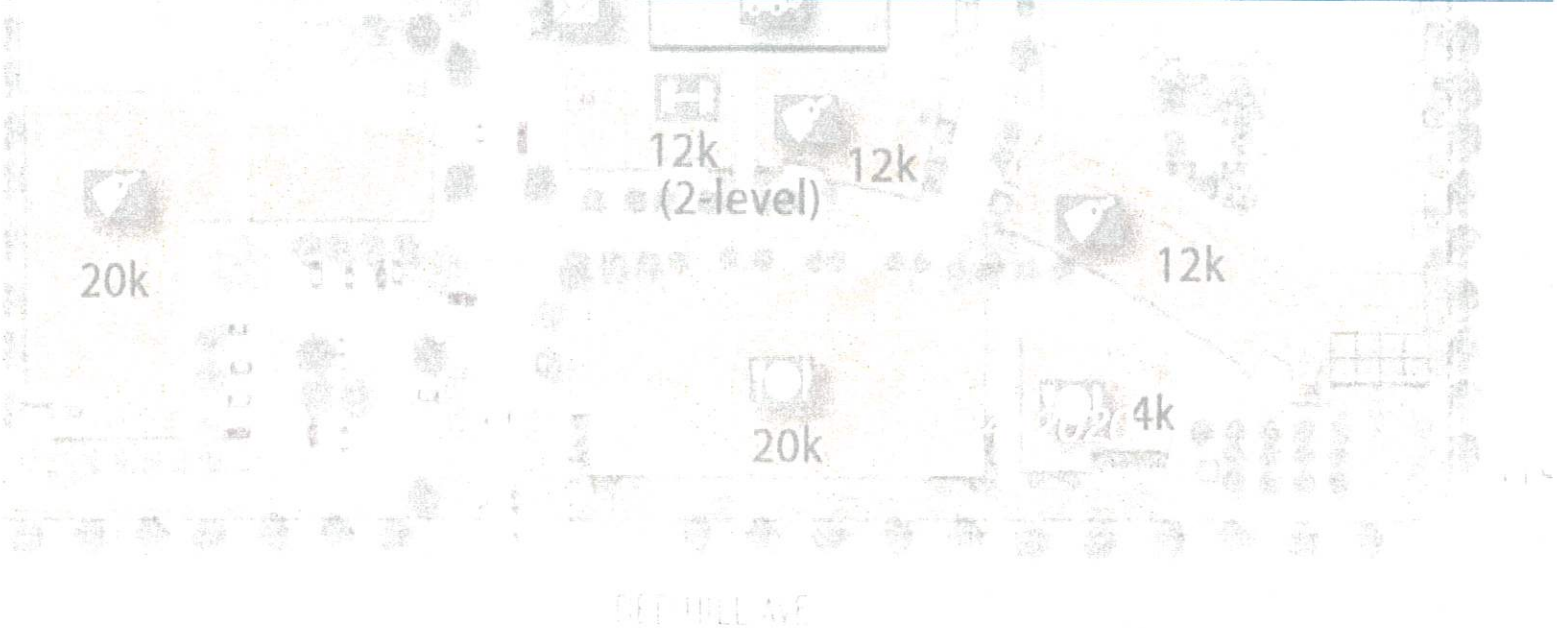
PARKING MANAGEMENT PLAN
THE BOWERY





PARKING MANAGEMENT PLAN (PMP)

To ensure adequate parking is provided for both tenants, employees and guests of the Project, it is recommended that when the Property Owner and/or Property Management Company deems it necessary, the following key Parking Management Strategies be implemented by the Property Owner and/or Property Management Company:

PMP Measures

The following measures are available to the Project to mitigate any parking impacts or deficiencies in the event the proposed onsite parking supply is determined to be greater than what is provided.

Retail/Commercial Component

1. The Property Owner/Property Management Company will work with tenants of the retail center to implement an employee parking program, with the goal of providing convenient and accessible shopping experience for the customers of the retail center and to leave the most desirable parking spaces within the parking structure for use by customers. The location of designated employee parking spaces will be developed in collaboration between Property Owner/Property Management Company and the tenants. The employee parking spaces will be identified with a white or yellow circle. It is noted that these spaces will be open for customer use.

2. The Property Owner/Property Management Company will work with tenants of the retail center to identify the need for "short term/time restricted spaces" on an as need basis, dependent on the needs of the proposed retail and/or food use. These short term spaces will most likely be designated in the surface parking that is located directly in front of Building C. The short-term spaces may be used for "curbside/take out" and/or for service retail-type users. The number and location of spaces will be determined by Property Owner/Property Management Company and the potential tenants.

3. If the Property Owner/Property Management Company determines additional parking is needed to meet the parking requirements of the retail/commercial component of the Project the Property Owner/Property Management Company shall implement a valet/valet assist program to accommodate up to 49 spaces. The hours of operation of the valet/valet assist program will be determined by the Property Owner/Property Management Company, and subject to actual demand, may include weekends, between the period 11:00 AM and 10:00 PM, and potentially weekdays during the midday period of 11:00 AM to 2:00 PM to enhance the customer experience accommodate the "lunch time" crowd of the proposed restaurant/food uses.

4. To implement the valet operation, the Property Owner/Property Management Company would engage the services of a well-established valet operations company to develop a detailed plan that would include drop-off and pick-up locations. It is our understanding that Parking Concepts, Inc. has been engaged to assist the Property Owner/Property Management Company team in developing a valet parking operation plan for the Project. ***Figures 10, 11, 12*** and ***13*** presents the location of the 49 valet/valet assist spaces.

Residential Component

5. The Property Owner/Property Management Company shall assign one (1) parking space to every unit. Additional spaces may be assigned to any unit that requests additional assigned spaces dependent on the number of bedrooms provided within said unit. The 2nd access/tandem spaces should be assigned to two-bedroom and three-bedroom units. The Property Owner/Property Management Company shall determine the allocation of parking spaces for resident tenants and location of guest parking spaces, inclusive of spaces designated and signed for prospective resident tenants.

6. Relative to the provision/installation of vehicle lifts, the Property Owner/Property Management Company shall install up to 212 vehicle lifts. *Figure 10, 11, 12* and *13* presents the location for vehicle lifts. The Property Owner/Property Management Company will assign 15 lift spaces to the three-bedroom units and 197 lift spaces to the two-bedroom units.

7. The Property Owner/Property Management Company, if deemed necessary, may allow resident guest to utilize the valet program identified in Measure No. 5, as an enhanced service. To implement the valet operation, the Property Owner/Property Management Company would engage the services of a well-established valet operations company, similar to PMP measure No. 3.

Retail/Commercial & Residential Component

8. The parking conditions for the Project will be reviewed/monitored on a quarterly basis by the Property Owner/Property Management Company and appropriate actions detailed above will be taken to ensure that the necessary PMP measures are being implemented.

9. The Property Owner and/or Property Management Company will install "car lifts" to accommodate resident parking demand to achieve a desired parking ratio of 2.0 spaces per unit per the direction of the City.

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Through this monitoring and cooperation with the residents and tenants as a result of the quarterly review/monitoring, a partnership will be formed to ensure that residential tenants and retail employees and Management Company personnel on the property work together to ensure adequate parking is available.

CONCLUSIONS

Review of the above information shows that the proposed Project provides adequate parking to accommodate the needs of the retail/commercial users, where the parking supply is established via application of 5 spaces per 1000 SF, and residential users independently of each other, which is calculated at 2.0 spaces per unit.

The results of the shared parking analysis indicate that the Project's proposed mix of retail/commercial and restaurant uses have a peak demand of 374 spaces. With a proposed parking supply of 400 spaces, a minimum surplus of 26 spaces is forecast.

For the Project's residential component, the Project has the ability to implement a PMP via the use of valet/valet assist, assignment of tandem stalls for specific units, plus the use of vehicular lifts to maintain adequate parking for all users of the Project. As noted earlier, the Project could provide an additional 330 spaces for the residents, via 118 2nd access (tandem) stalls and 212 car lift spaces if it were deemed necessary, thus resulting a parking rate of 2.0 spaces per unit as required by the City.

* * * * * * * * * * *

We appreciate the opportunity to provide this analysis for RHW Holdings, LLC and the City of Santa Ana. Should you have any questions, please call us at 949.825.6175.

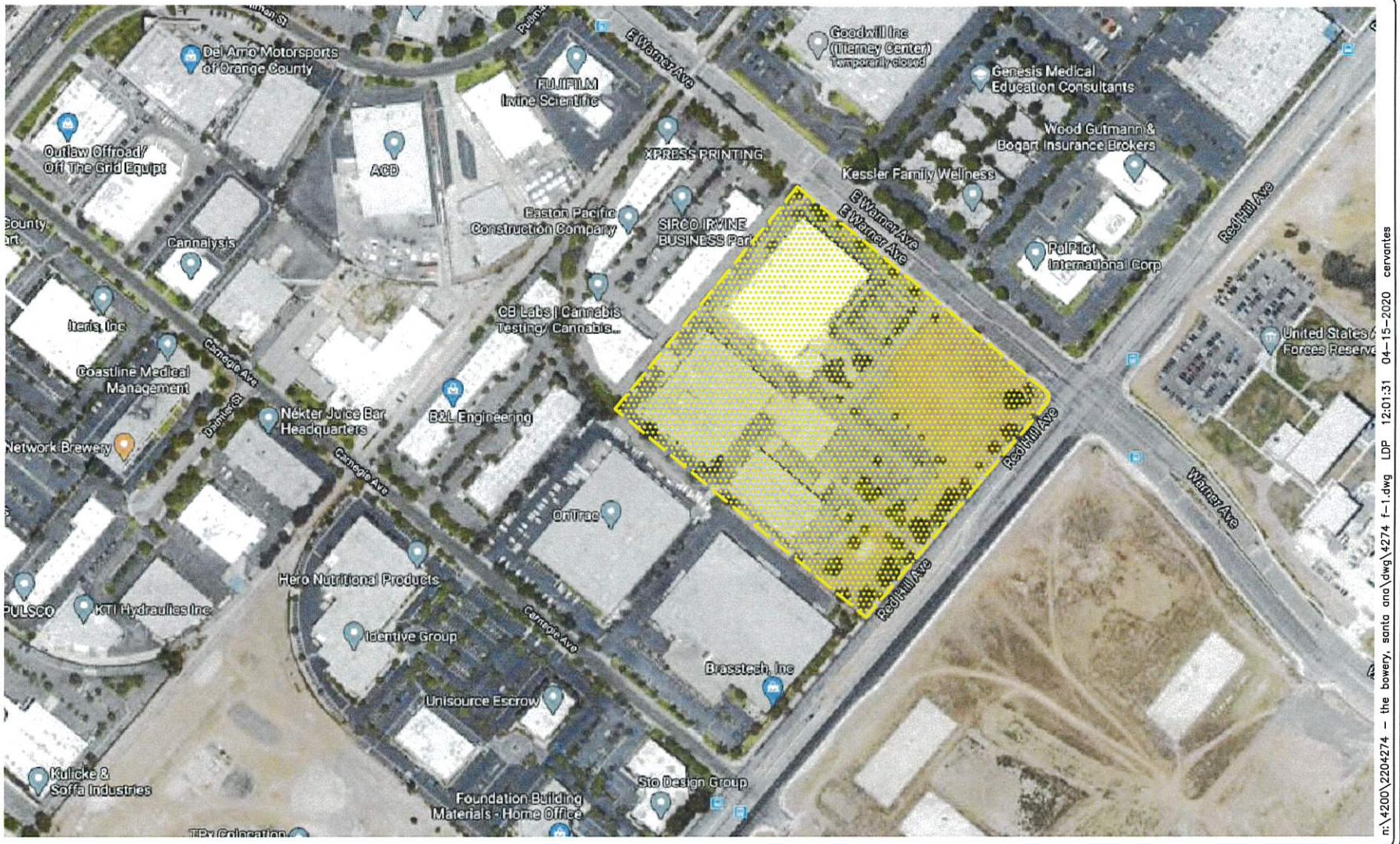
Respectively submitted,
Linscott, Law & Greenspan, Engineers

Richard E. Barretto, P.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
RICHARD E. BARRETTO
No. 2006
Exp. 6/30/21
TRAFFIC
STATE OF CALIFORNIA

Attachments

cc: Shane Green, P.E., Transportation Engineer III



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N NO SCALE

SOURCE: GOOGLE

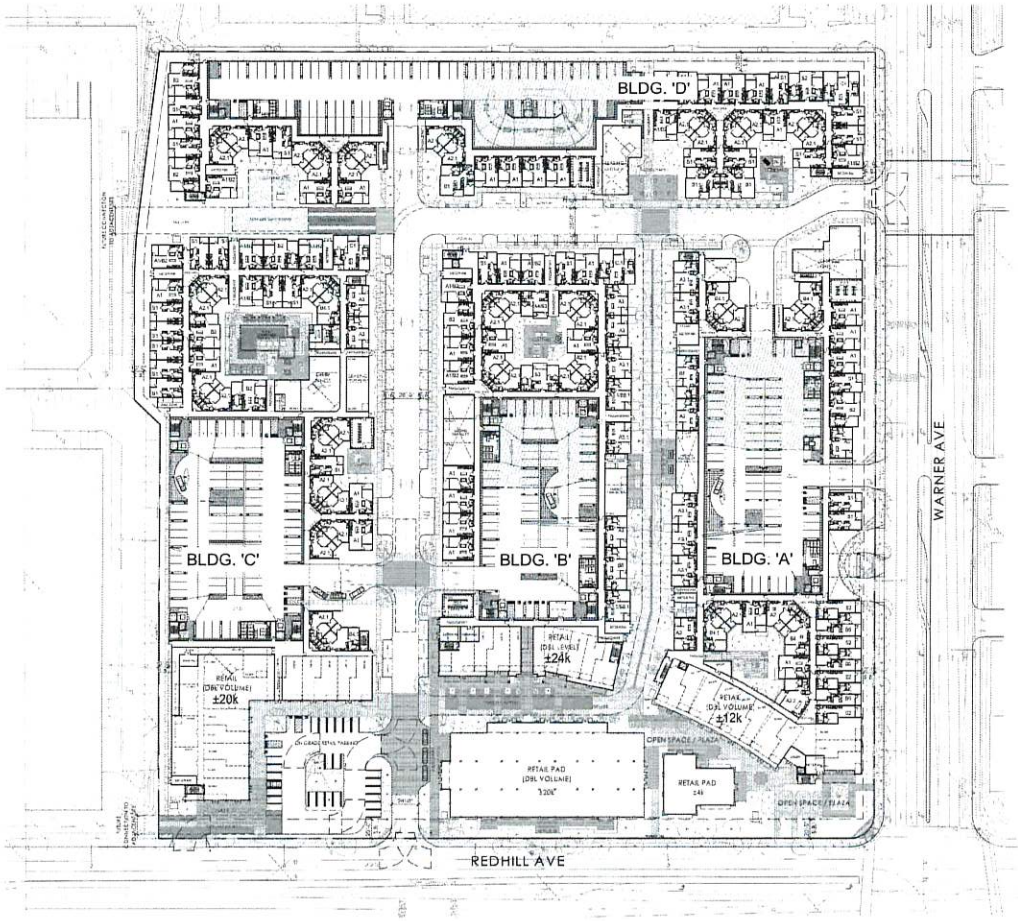
KEY

= PROJECT SITE

FIGURE 1

EXISTING AERIAL SITE PLAN

THE BOWERY, SANTA ANA



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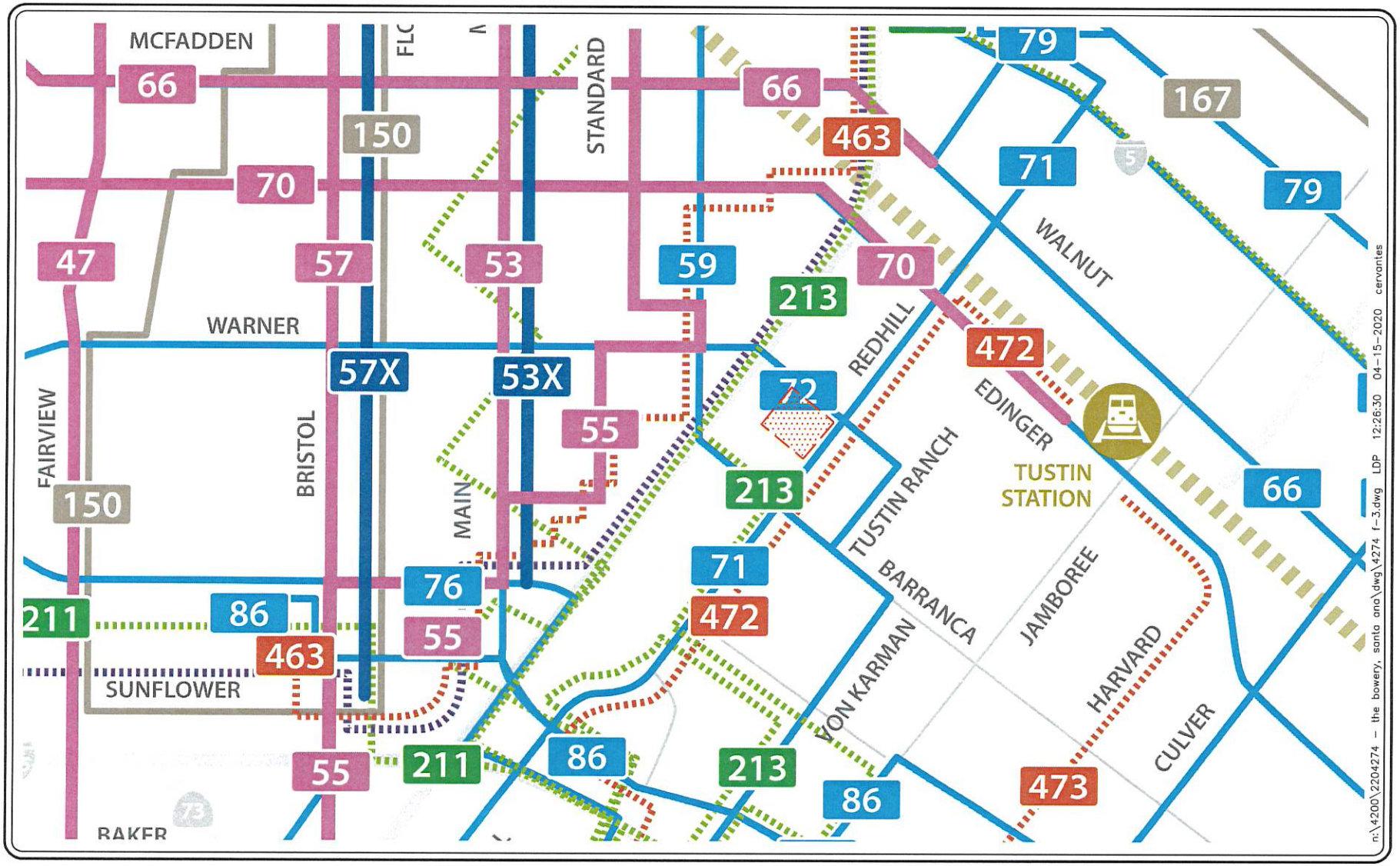
N NO SCALE

SOURCE: AO

FIGURE 2

PROPOSED SITE PLAN

THE BOWERY, SANTA ANA



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N NO SCALE

SOURCE: OCTA

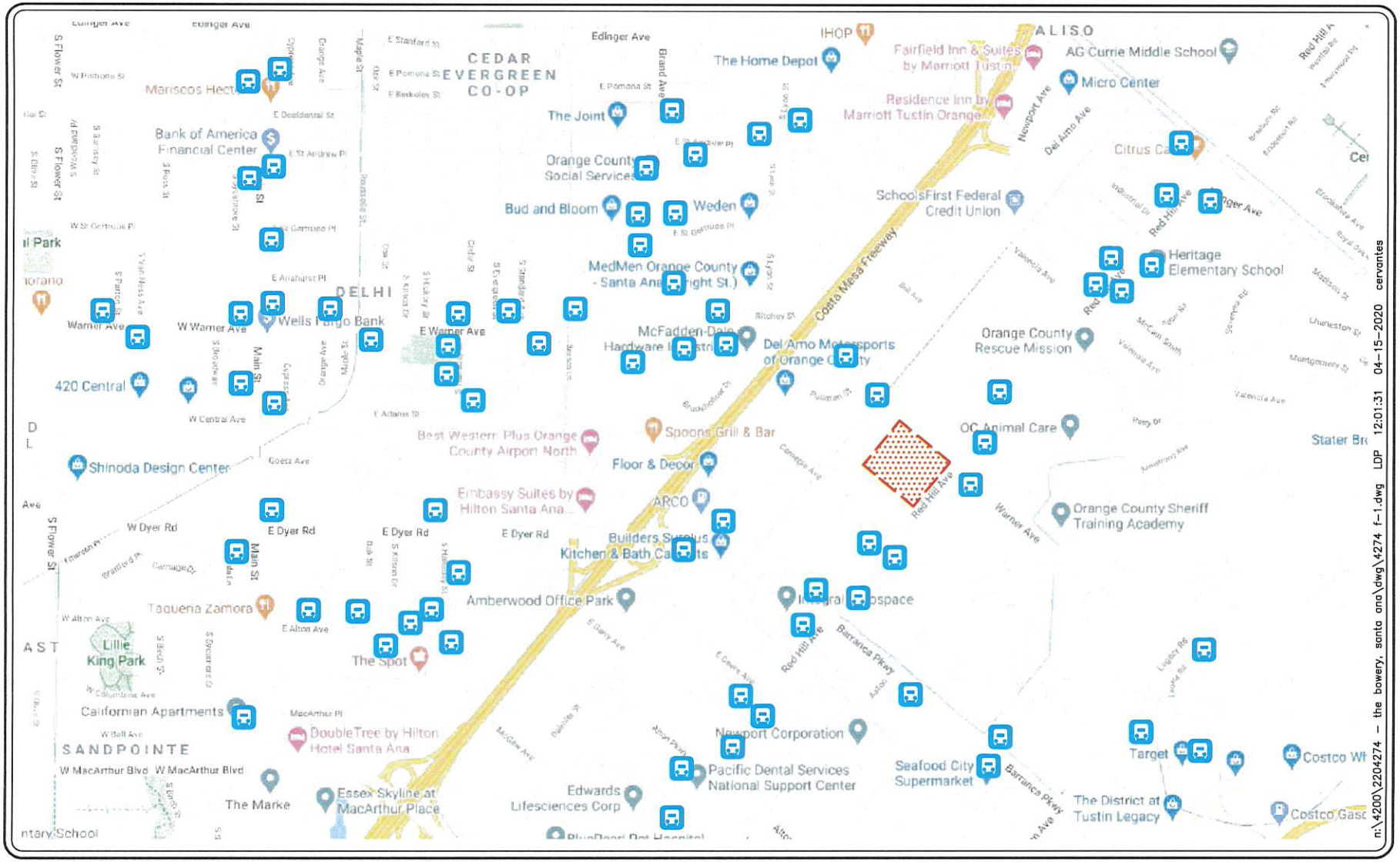
KEY

= PROJECT SITE

FIGURE 3

OCTA TRANSIT MAP

THE BOWERY, SANTA ANA



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N NO SCALE

SOURCE: GOOGLE

KEY

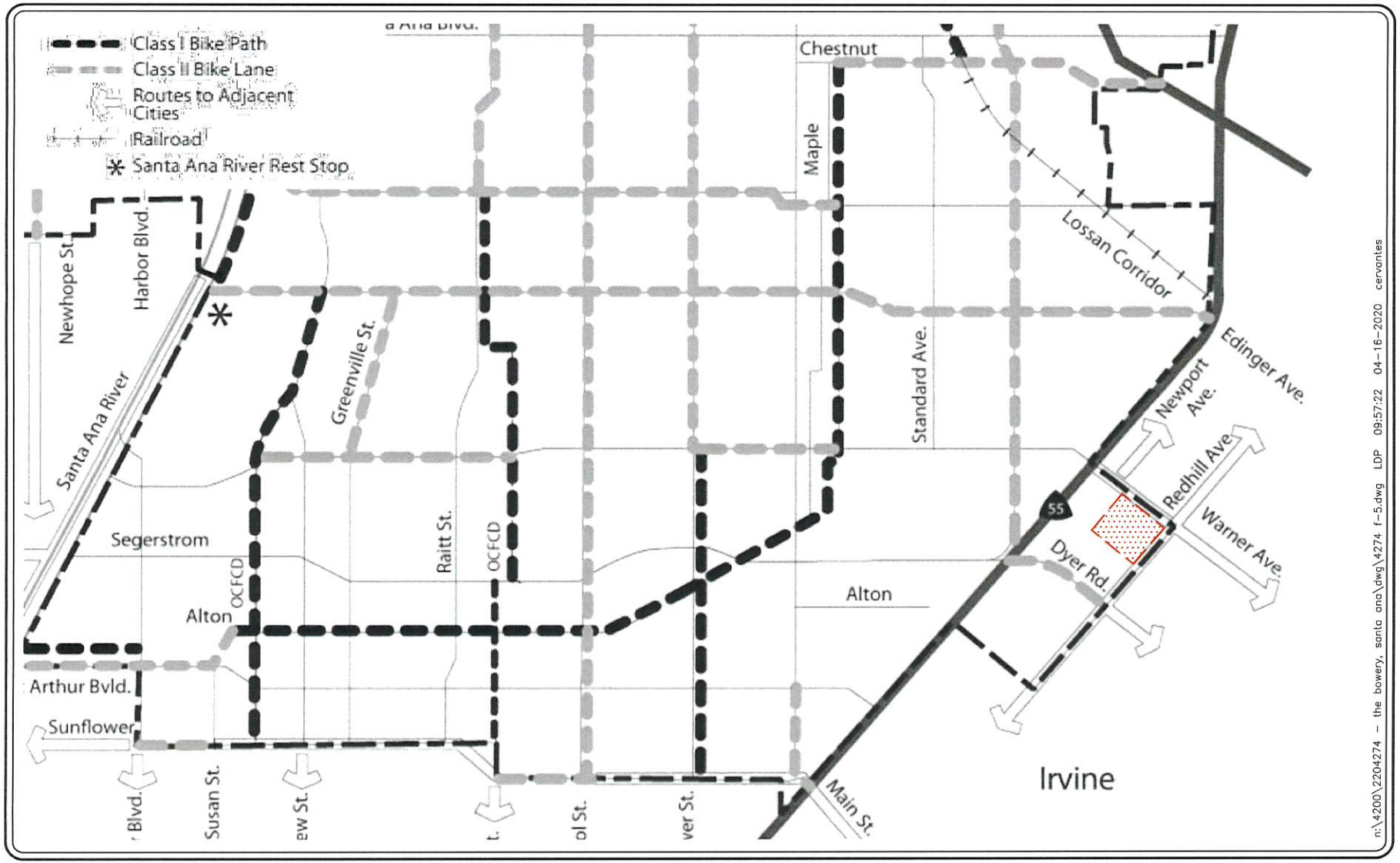
= PROJECT SITE

= TRANSIT STOP

FIGURE 4

TRANSIT STOP LOCATIONS

THE BOWERY, SANTA ANA



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N NO SCALE

SOURCE: CITY OF SANTA ANA GENERAL PLAN

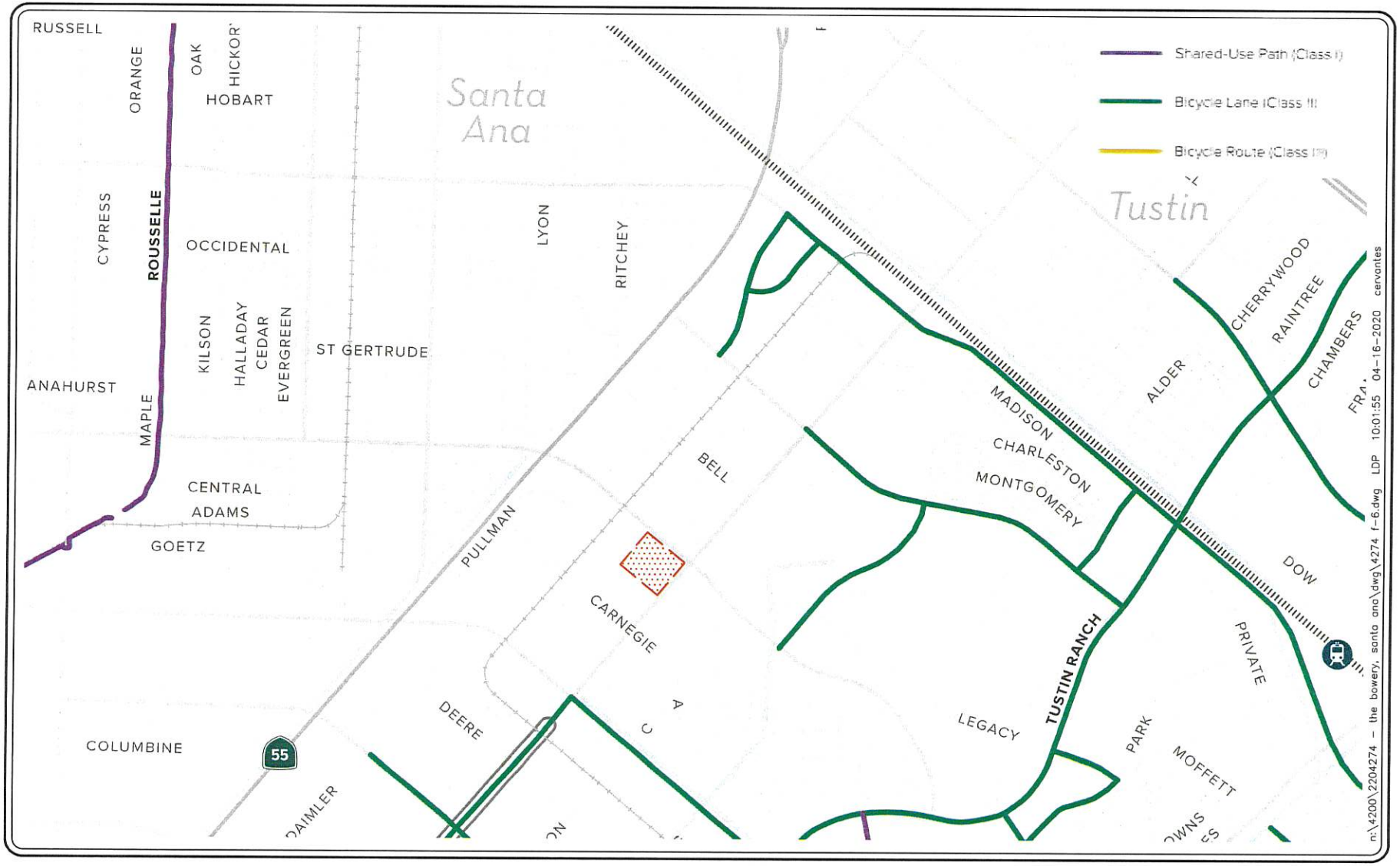
KEY

= PROJECT SITE

FIGURE 5

CITY OF SANTA ANA BIKEWAY MASTER PLAN

THE BOWERY, SANTA ANA



LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: CITY OF IRVINE GENERAL PLAN

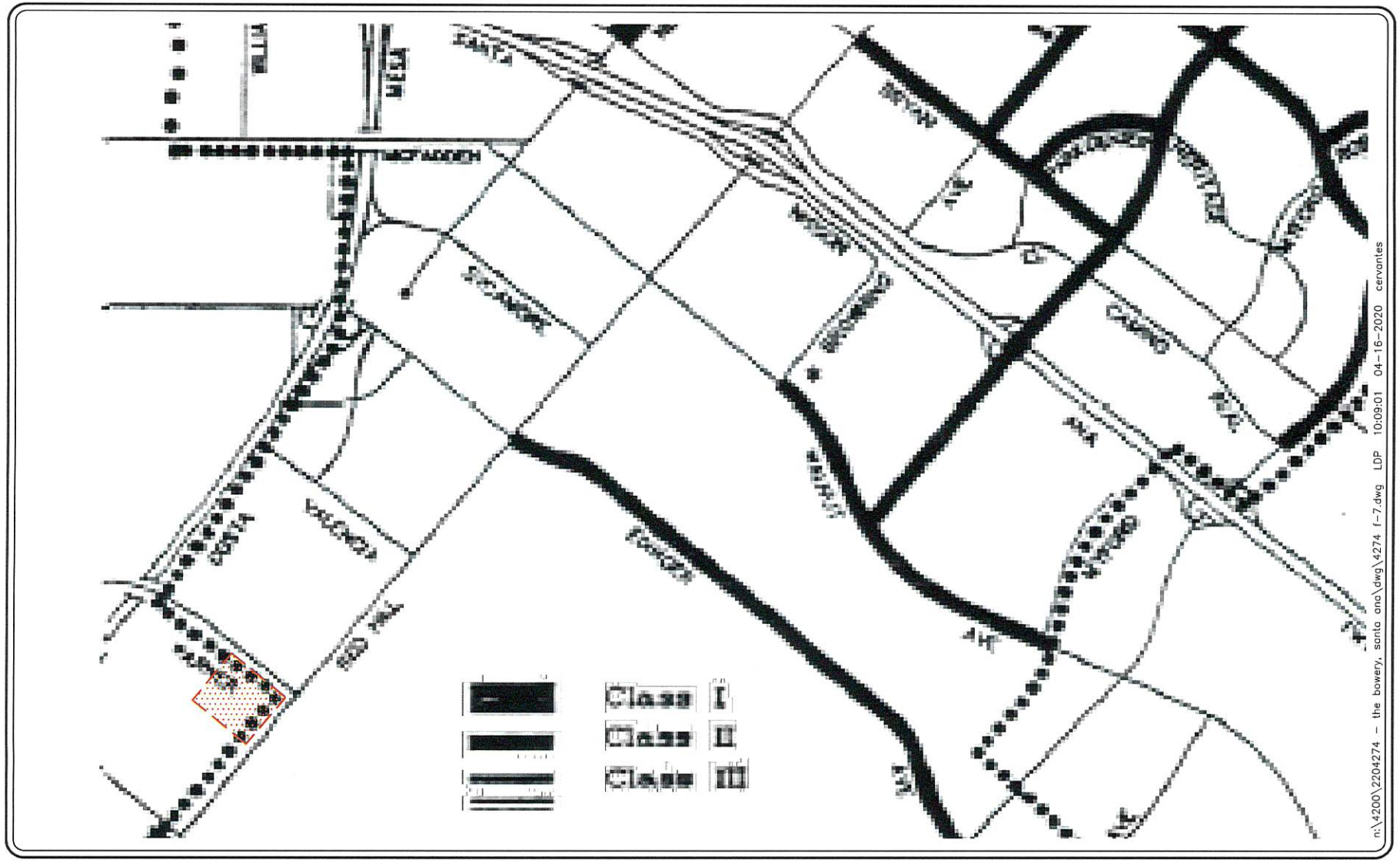
KEY

= PROJECT SITE

FIGURE 6

CITY OF IRVINE BIKEWAY MASTER PLAN

THE BOWERY, SANTA ANA



LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: CITY OF TUSTIN GENERAL PLAN

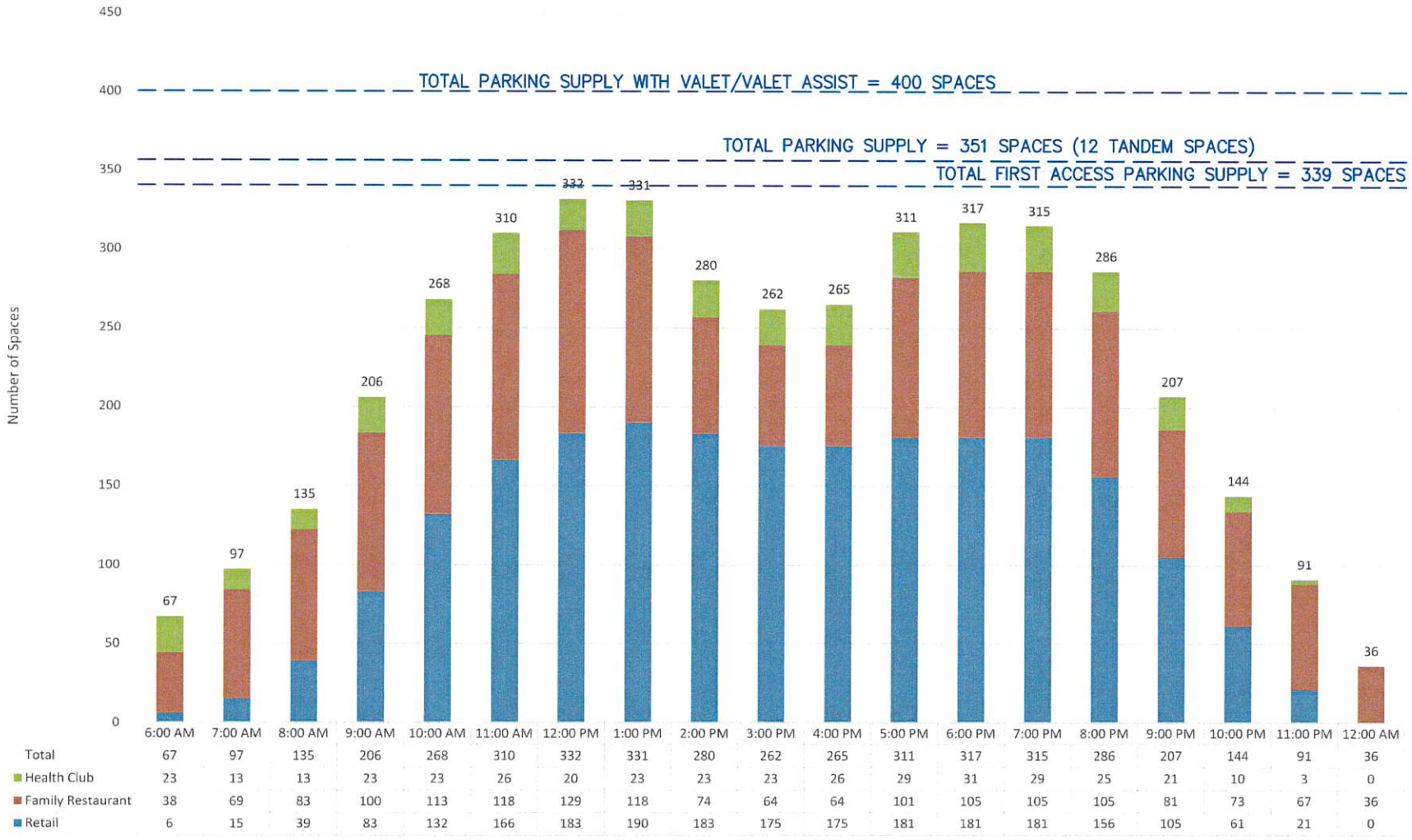
KEY

= PROJECT SITE

FIGURE 7

CITY OF TUSTIN BIKEWAY MASTER PLAN

THE BOWERY, SANTA ANA

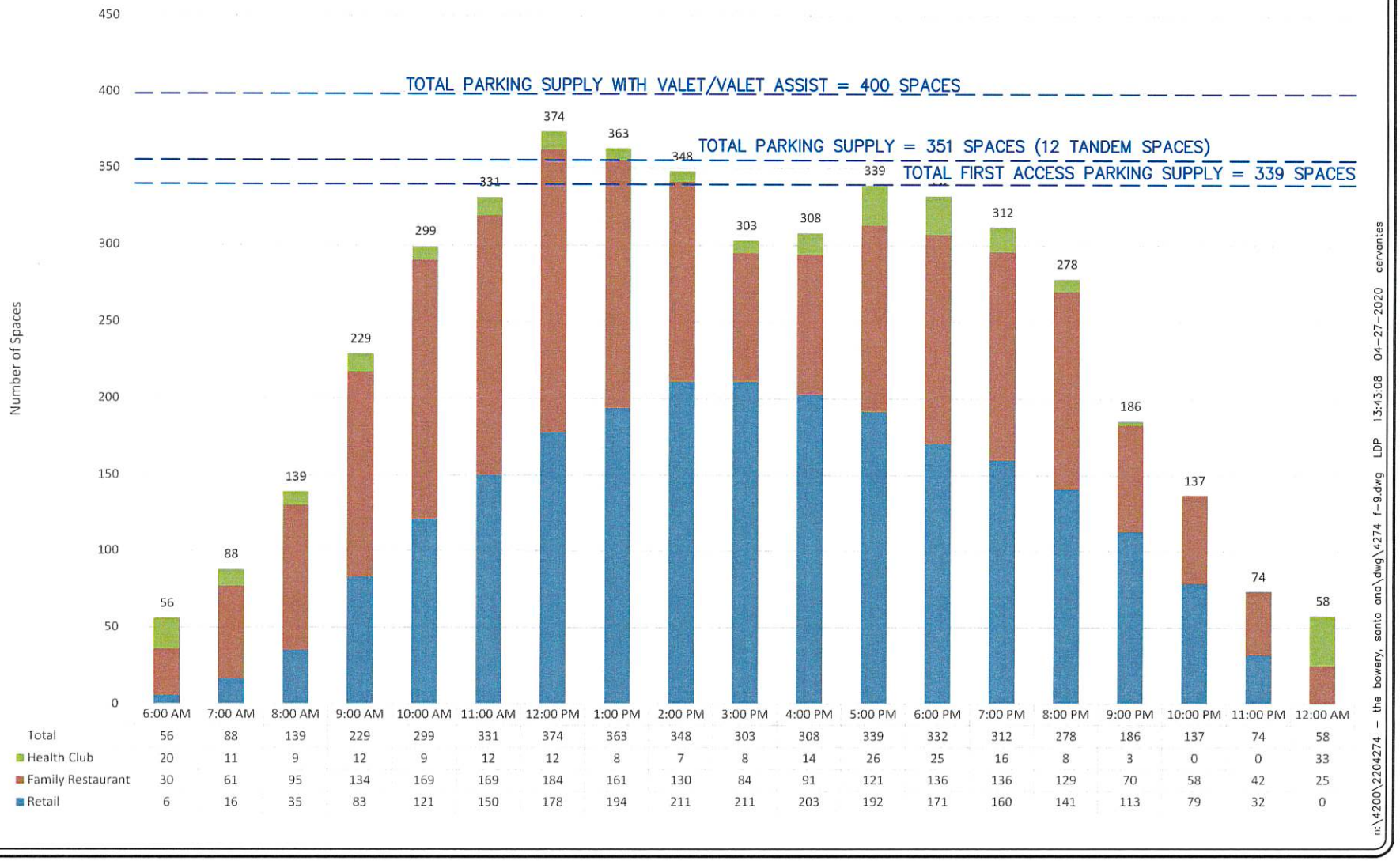


LINSCOTT LAW & GREENSPAN engineers

FIGURE 8

WEEKDAY PARKING DEMAND PROFILE

THE BOWERY, SANTA ANA



LINSCOTT LAW & GREENSPAN engineers

FIGURE 9

WEEKEND PARKING DEMAND PROFILE

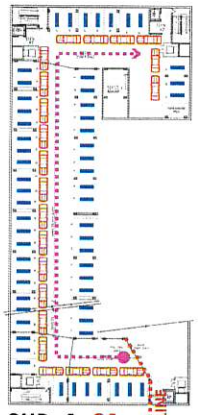
THE BOWERY, SANTA ANA

THE BOWERY
BUILDG 'A'
PARKING STRUCTURE

RESIDENTIAL CONSTRUCTUED STALLS: 505
RETAIL CONSTRUCTED STALLS: 111
TOTAL CONSTRUCTED STALLS: 616

VALET STALLS: 34
RESIDENTIAL CAR LIFTS: 55

TOTAL SPACES PROVIDED : 705



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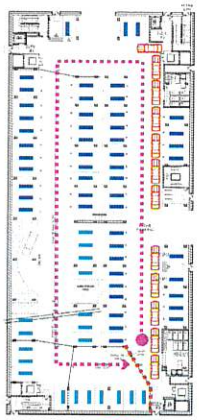
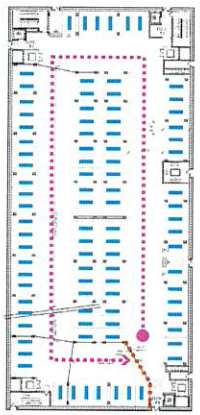
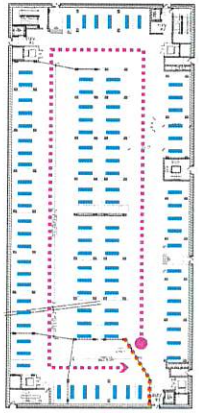


LEVEL 1: 83
(VALET SPACE: +12)



LEVEL 2: 92



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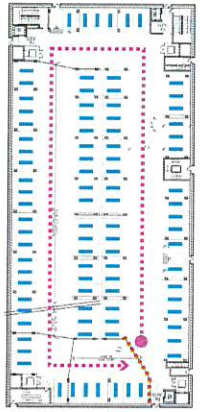

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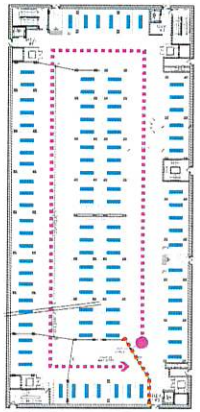

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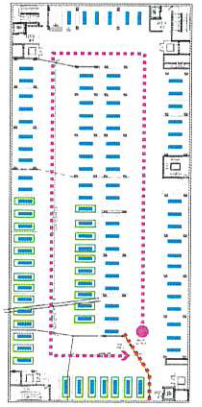
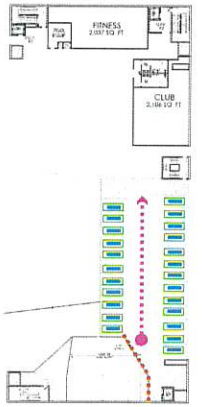


LEVEL 6: 125
(CAR LIFT: +31)



LEVEL 7: 48
(CAR LIFT: +24)

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= VALET SPACE
= CAR LIFT SPACE

FIGURE 10

BUILDING A PARKING STRUCTURE
THE BOWERY, SANTA ANA

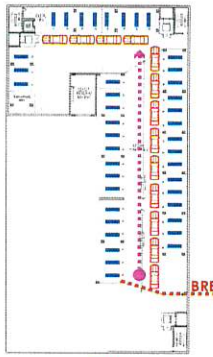
THE BOWERY
BUILDG 'B'
PARKING STRUCTURE

RESIDENTIAL CONSTRUCTUED STALLS: 441
RETAIL CONSTRUCTED STALLS: 107
TOTAL CONSTRUCTED STALLS: 548

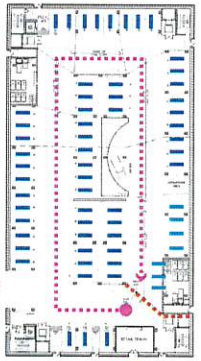
VALET STALLS: 13
RESIDENTIAL CAR LIFTS: 47

TOTAL SPACES PROVIDED : 608

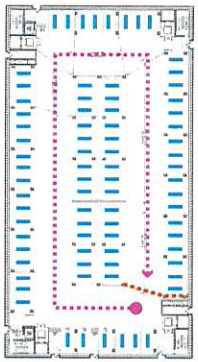
SURFACE STALLS: 16



SUB. 1: 54
(VALET SPACE: +13)



LEVEL 1: 63



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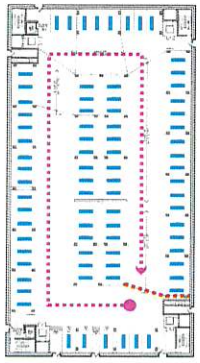
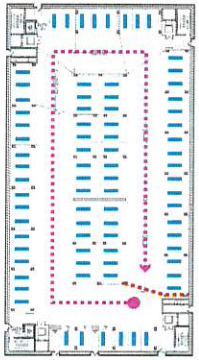
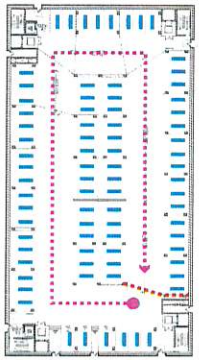


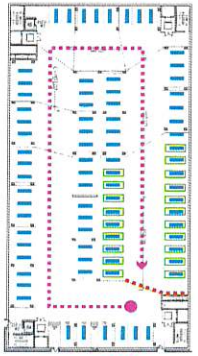
LEVEL 3: 80



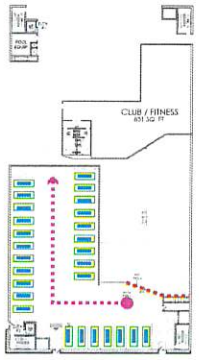
LEVEL 4: 80



LEVEL 5: 80



LEVEL 6: 101
(CAR LIFT: +20)



LEVEL 7: 54
(CAR LIFT: +27)

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N NO SCALE

KEY
= VALET SPACE
= CAR LIFT SPACE

FIGURE 11

BUILDING B PARKING STRUCTURE
THE BOWERY, SANTA ANA

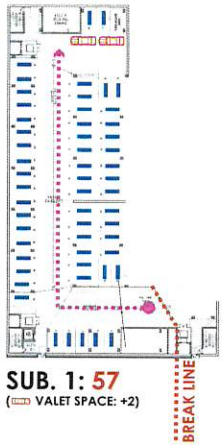
THE BOWERY
BUILDG 'C'
PARKING STRUCTURE

- RESIDENTIAL CONSTRUCTUED STALLS: 580
- RETAIL CONSTRUCTED STALLS: 133
- TOTAL CONSTRUCTED STALLS: 713

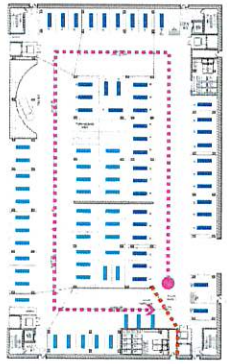
- VALET STALLS: 02
- RESIDENTIAL CAR LIFTS: 64

TOTAL SPACES PROVIDED : 779

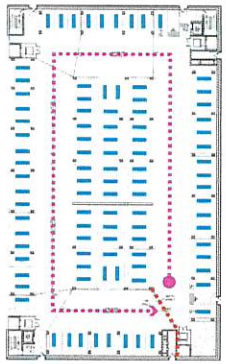
SURFACE STALLS: 36



SUB. 1: 57
(VALET SPACE: +2)



LEVEL 1: 82



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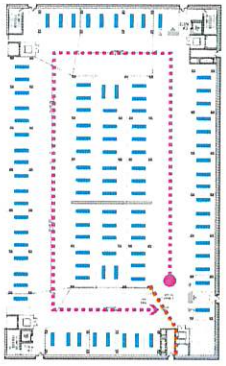
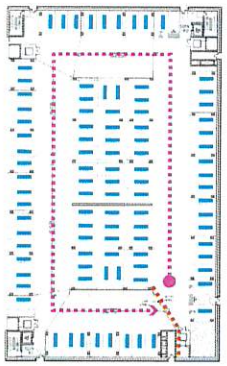


LEVEL 3: 97



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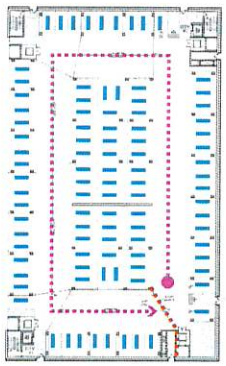
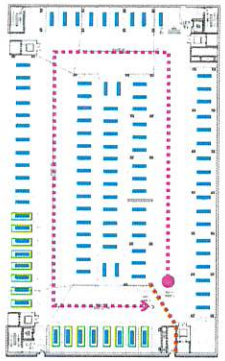
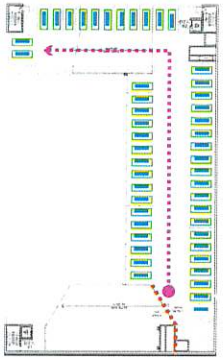


LEVEL 5: 97



LEVEL 6: 119
(CAR LIFT: +16)



LEVEL 7: 97
(CAR LIFT: +48)

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

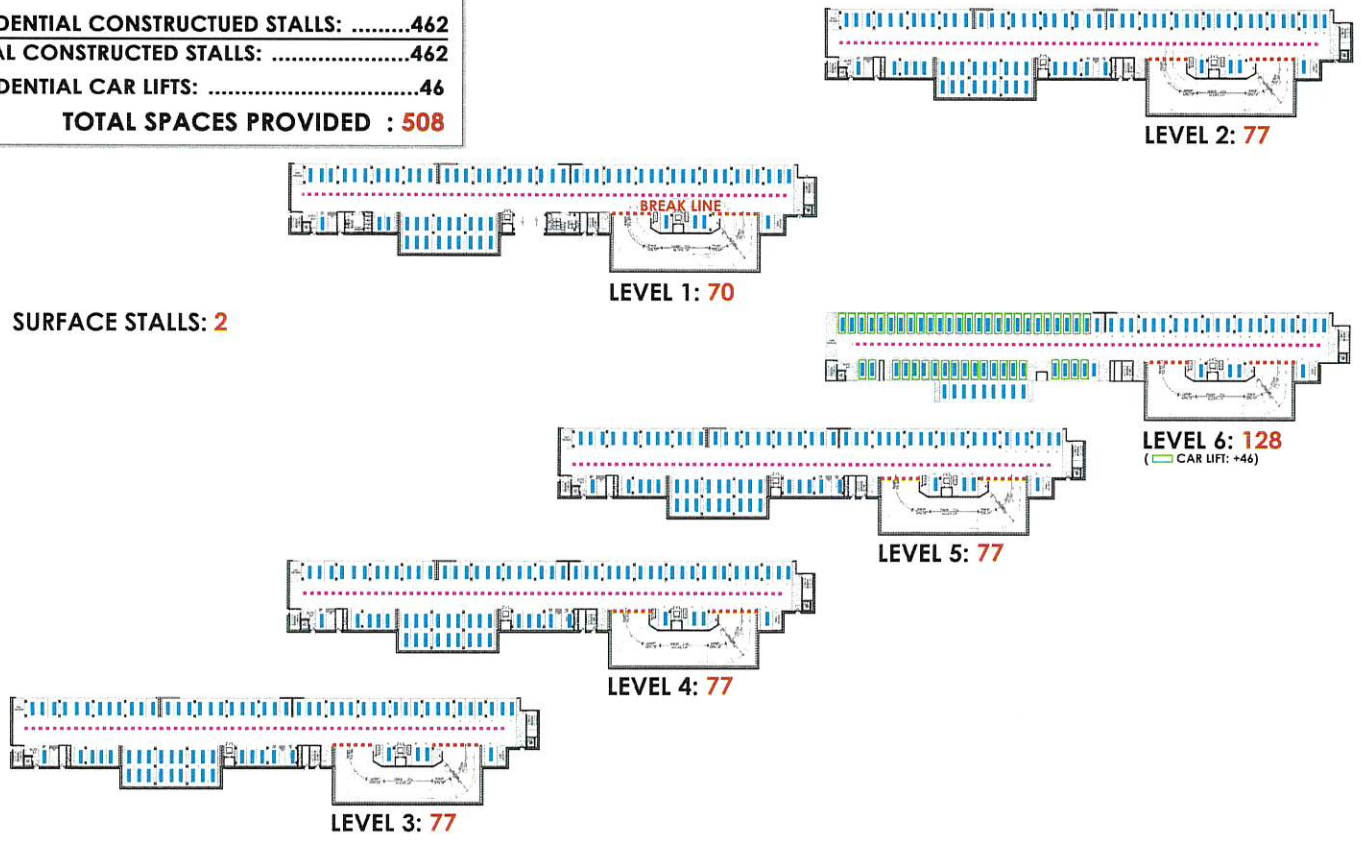
KEY
= VALET SPACE
= CAR LIFT SPACE

FIGURE 12

BUILDING C PARKING STRUCTURE
THE BOWERY, SANTA ANA

THE BOWERY
BUILDG 'D'
PARKING STRUCTURE

RESIDENTIAL CONSTRUCTUED STALLS: 462
TOTAL CONSTRUCTED STALLS: 462
RESIDENTIAL CAR LIFTS: 46
TOTAL SPACES PROVIDED : 508



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY
= CAR LIFT SPACE

FIGURE 13

BUILDING D PARKING STRUCTURE
THE BOWERY, SANTA ANA

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TABLE 1
PROJECT DEVELOPMENT SUMMARY[2]
THE BOWERY, SANTA ANA

Land Use / Project Description	Building A Development	Building B Development	Building C Development	Building D Development	Total Project Development
❑ Residential Component					
○ Studio	63 Units	35 Units	79 Units	50 Units	227 Units
○ 1 Bedroom	144 Units	136 Units	149 Units	146 Units	575 Units
○ 2 Bedrooms	73 Units	68 Units	89 Units	53 Units	283 Units
○ 3 Bedrooms	--	4 Units	4 Units	5 Units	15 Units
Total Residential Units:	***280 units***	***244 units***	***322 units***	***254 units***	***1,100 units***
❑ Retail/Commercial Component					
○ Retail Shops	12,000 SF	12,000 SF	20,000 SF	--	44,000 SF
○ Health Club/Fitness Club	--	12,000 SF	--	--	12,000 SF
○ Restaurant/Food Uses	4,000 SF	20,000 SF	--	--	24,000 SF
Total Retail Space:	***16,000 SF***	***44,000 SF***	***20,000 SF***	--	***80,000 SF***
❑ On-Site Parking Supply					
Residential Parking - Constructed	505 spaces	441 spaces	516 spaces	406 spaces	1,868 spaces
Residential Parking- Surface	--	--	--	2 spaces	2 spaces
Residential Parking – 2nd Access (Tandem)	--	--	64 spaces	54 spaces	118 spaces
Residential Parking – Car Lifts	55 spaces	47 spaces	64 spaces	46 spaces	212 spaces
Residential Parking – Subtotal	*560 spaces*	*448 spaces*	*644 spaces*	*508 spaces*	*2,200 spaces*
Retail Parking - Constructed	111 spaces	91 spaces	85 spaces	---	287 spaces
Retail Parking- Surface	--	16 spaces	36 spaces	--	52 spaces
Retail Parking- 2nd Access (Tandem)	--	--	12 spaces	--	12 spaces
Retail Parking- Valet/Valet Assist	34 spaces	13 spaces	2 spaces	--	49 spaces
Retail Parking – Subtotal:	*145 spaces*	*120 space*	*135 spaces*	--	*400 spaces*
Total Parking Supply:	***705 spaces***	***608 spaces***	***779 spaces***	***508 spaces***	***2,600 spaces***

[2] Source: KTGY Architects, 04/24/2020.

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TABLE 2
WEEKDAY COMMERCIAL SHARED PARKING DEMAND SUMMARY [1]
THE BOWERY, SANTA ANA

Land Use	Retail	Family Restaurant	Health Club	Shared Parking Demand	Comparison w/ Parking Supply 400 Spaces
Size	44.000 KSF	24.000 KSF	6.000 KSF		
Pkg Rate[2]	5 /KSF	8 /KSF	5.55 /KSF		
Gross Spaces	220 Spc.	192 Spc.	33 Spc.		
Time of Day	Number of Spaces	Number of Spaces	Number of Spaces		Surplus (Deficiency)
6:00 AM	6	38	23	67	333
7:00 AM	15	69	13	97	303
8:00 AM	39	83	13	135	265
9:00 AM	83	100	23	206	194
10:00 AM	132	113	23	268	132
11:00 AM	166	118	26	310	90
12:00 PM	183	129	20	332	68
1:00 PM	190	118	23	331	69
2:00 PM	183	74	23	280	120
3:00 PM	175	64	23	262	138
4:00 PM	175	64	26	265	135
5:00 PM	181	101	29	311	89
6:00 PM	181	105	31	317	83
7:00 PM	181	105	29	315	85
8:00 PM	156	105	25	286	114
9:00 PM	105	81	21	207	193
10:00 PM	61	73	10	144	256
11:00 PM	21	67	3	91	309
12:00 AM	0	36	0	36	364

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City Code.

LINSCOTT LAW & GREENSPAN engineers

TABLE 3
WEEKEND COMMERCIAL SHARED PARKING DEMAND SUMMARY [1]
THE BOWERY, SANTA ANA

Land Use	Retail	Family Restaurant	Health Club	Shared Parking Demand	Comparison w/ Parking Supply 400 Spaces
Size	44.000 KSF	24.000 KSF	6.000 KSF		
Pkg Rate[2]	5 /KSF	8 /KSF	5.55 /KSF		
Gross Spaces	220 Spc.	192 Spc.	33 Spc.		
Time of Day	Number of Spaces	Number of Spaces	Number of Spaces		Surplus (Deficiency)
6:00 AM	6	30	20	56	344
7:00 AM	16	61	11	88	312
8:00 AM	35	95	9	139	261
9:00 AM	83	134	12	229	171
10:00 AM	121	169	9	299	101
11:00 AM	150	169	12	331	69
12:00 PM	178	184	12	374	26
1:00 PM	194	161	8	363	37
2:00 PM	211	130	7	348	52
3:00 PM	211	84	8	303	97
4:00 PM	203	91	14	308	92
5:00 PM	192	121	26	339	61
6:00 PM	171	136	25	332	68
7:00 PM	160	136	16	312	88
8:00 PM	141	129	8	278	122
9:00 PM	113	70	3	186	214
10:00 PM	79	58	0	137	263
11:00 PM	32	42	0	74	326
12:00 AM	0	25	0	25	375

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City Code.

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TABLE 4

CITY CODE PARKING REQUIREMENT AND COMPOSITE PARKING SUPPLY RATIOS[3]

THE BOWERY, SANTA ANA

Land Use / Project Description	No. Of Units	No. Of Bedrooms	City of Santa Ana Code Parking Requirement	Spaces Required
The Bowery Apartments				
o No. of Units	1,100	--	1 space per unit	1,100
o Studio Units	228	228	1 space per bedroom	228
o 1 Bedroom Units	574	574	1 space per bedroom	574
o 2 Bedroom Units	283	566	1 space per bedroom	566
o 3 Bedroom Units	15	45	1 space per bedroom	45
Total	*1,100*	*1,413*		*2,513*
Guest parking	--	--	25% of total parking required (2,513 x 0.25)	628
A. Total Parking Code Requirement:				**3,141**
B. Proposed Parking Supply – Constructed:				**1,870**
C. Proposed 2nd Access (Tandem) Supply				**118**
D. Proposed "Car Lift" Supply				**212**
E. Total Proposed Parking Supply [Row B + Row C + Row D]				**2,200**
F. Parking Surplus/Deficiency (+/-) [Row D – Row A]				**-941**
G. Residential Use Code Composite Parking Demand Ratio (sp/du) [Row A ÷ total DU]				**2.86**
H. Project "Constructed" Parking Supply Ratio (sp/du) [Row B ÷ total DU]				**1.7**
I. Project Parking Supply Ratio with 2nd Access Stall (sp/du) [(Row B + Row C) ÷ total DU]				**1.81**
J. Total Project Parking Supply Ratio (sp/du) [Row E ÷ total DU]				**2.0**

[3] Source: City of Santa Ana Municipal Code, Section 41-1322 – Multiple-family dwellings.

TABLE 5
COMPARATIVE PARKING RATIO SUMMARY AND DEMAND
THE BOWERY, SANTA ANA

	Comparable Site	City	Address	Development Summary	Parking Facility	Parking Supply	Retail	Survey Period	Tenant & Guest Peak Parking Ratio - Spaces per DU (Peak Hour)	Tenant & Guest Saturday Daytime Peak Parking Ratio (Peak Hour)
1	Anton Residential Mid-Rise Building	Costa Mesa	580 Anton Boulevard	250 Unit Luxury Apartments • 80 2 Bedroom Units • 170 Studio/1 Bedroom Units	Structure	438 Spaces • Residents - 330 sp. • Guests - 108 sp.	--	--	1.75 (Peak Hour N/A)	--
2	Main Street Village [a]	Irvine	2555 Main Street	481 Unit Apartments • 265 1 Bedroom Units • 200 2 Bedroom Units • 16 3 Bedroom Units	Structure	1,020 Spaces • Residents - 847 sp. • Public/Guests - 173 sp.	--	Wednesday & Thursday 10PM-12AM	1.42 (@ 12:00 AM)	--
3	279 Unit Complex [b]	Irvine	--	279 Unit Apartments • 2 Studio Units • 162 1 Bedroom Units • 115 2 Bedroom Units	Gated Structure	600 Spaces	--	Tuesday 6PM-1AM	1.36 (Peak Hour N/A)	--
4	403 Unit Complex [b]	Irvine	--	403 Unit Apartments • 326 1 Bedroom Units • 77 2 Bedroom Units	Gated Structure	643 Spaces	--	Tuesday 6PM-1AM	1.29 (Peak Hour N/A)	--
5	460 Unit Complex [b]	Orange	--	460 Unit Apartments • 256 1 Bedroom Units • 204 2 Bedroom Units	Gated Structure, Gated Surface Lot	784 Spaces	--	Tuesday 6PM-1AM	1.4 (Peak Hour N/A)	--
6	183 Unit Complex [b]	Fullerton	--	183 Unit Apartments • 129 1 Bedroom Units • 54 2 Bedroom Units	Gated Residential Structure	223 Residential Spaces	Yes	--	1.1 (Peak Hour N/A)	--
7	250 Unit Complex [b]	Santa Ana	--	250 Unit Apartments • 108 1 Bedroom Units • 145 2-3 Bedroom Units	Gated Residential Structure	453 Residential Spaces	Yes	--	0.94 (Peak Hour N/A)	--
8	Paragon at Old Town [a]	Monrovia	700 S. Myrtle Avenue	163 Unit Apartments • 82 1 Bedroom Units • 81 3 Bedroom Units	Surface Lot, On-Street Parking	404 Spaces • Residents - 329 sp. • Public/Guests - 75 sp.	--	Wednesday & Thursday 6PM-12AM	1.48 (@ 11:00 PM)	--
9	Trio Apartments [a]	Pasadena	44 N. Madison Avenue	304 Unit Apartments • 46 Studio Units • 141 1 Bedroom Units • 117 2 Bedroom Units	Surface Lot, On-Street Parking	480 Spaces • Residents - 450 sp. • Public/Guests - 30 sp.	--	Wednesday & Thursday 10PM-12AM	1.22 (@12:00 AM)	--
10	Adagio on the Green [d]	Mission Viejo	2660 Oso Parkway	256 Unit Apartments	Garage, Surface Lot	512 Spaces • Residents - 424 sp. • Public/Guests - 88 sp.	--	Wednesday & Thursday 7PM-2AM Saturday: 12PM-3PM, 7PM-2AM	1.45 (@12:00 AM)	0.97 (@ 2:00 PM & 3:00 PM)
11	Skye at Laguna Niguel [d]	Laguna Niguel	28100 Cabot Road	142 Unit Apartments • 97 1 Bedroom Units • 45 2 Bedroom Units	Garage	294 Spaces • Residents - 240 sp. • Public/Guests - 54 sp.	--	Wednesday & Thursday 7PM-2AM Saturday: 12PM-3PM, 7PM-2AM	1.49 (@ 11:00 PM)	1.07 (@ 12:00 PM)
12	Apex Laguna Niguel [d]	Laguna Niguel	27960 Cabot Road	284 Unit Apartments • 32 Studio Units • 161 1 Bedroom Units • 91 2 Bedroom Units	Garage	539 Spaces • Residents - 461 sp. • Public/Guests - 78 sp.	--	Wednesday & Thursday 7PM-2AM Saturday: 12PM-3PM, 7PM-2AM	1.28 (@ 2:00 AM)	1.13 (@ 3:00 PM)
								Average:	**1.35**	
								85th Percentile:	**1.48**	
								95th Perentile:	**1.61**	
								Additional Parking Ratio References:		
								ITE *Parking Generation*, 4th Edition High-Rise Apartment		
								Average:	**0.98**	
								85th Percentile:	**1.19**	
								ULI *Shared Parking*: Residential (Rental) Units	**1.65**	
								Field Studies in Ontario and Rancho Cucamonga [c]	**1.58 - 1.66**	
								American Community Survey (ACS) in Ontario [c]	**1.62**	
								Household Surveys in San Bernardino and Riverside [c]	**1.45**	
								Parking Calculation Using Empirical Rates Above (1100 DU's for the The Bowery)		
								Average Demand (1.35 x 1100 DUs):	**1518**	
								85th Percentile Demand (1.48 x 1100 DUs):	**1628**	
								95th Percentile Demand (1.61 x 1100 DUs):	**1771**	

Notes:
[a] Source: *Parking Demand Analysis for the Proposed Fifth Avenue/Huntington Drive Mixed-Use Project City of Monrovia, California, prepared by LLG, Oct. 2012*
[b] Source: *Parking Study for AMLI Orange Apartment Project*, prepared by IBI Group, Nov. 2012
[c] Source: *Parking Reform Made Easy*, Richard W. Willson, 2013
[d] Source: Counts collected by LLG on December 2016.

APPENDIX A

ULI SHARED PARKING CALCULATION WORKSHEETS

Appendix Table 1A

SHOPPING CENTER (TYPICAL DAYS)
WEEKDAY SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Shopping Center (Typical Days)				
Size	44.000 KSF				
Pkg Rate[2]	5 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	220 Spaces				
	177 Guest Spc.		43 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	1%	2	9%	4	6
7:00 AM	5%	9	14%	6	15
8:00 AM	14%	24	36%	15	39
9:00 AM	32%	54	68%	29	83
10:00 AM	59%	99	77%	33	132
11:00 AM	77%	129	86%	37	166
12:00 PM	86%	144	90%	39	183
1:00 PM	90%	151	90%	39	190
2:00 PM	86%	144	90%	39	183
3:00 PM	81%	136	90%	39	175
4:00 PM	81%	136	90%	39	175
5:00 PM	86%	144	86%	37	181
6:00 PM	86%	144	86%	37	181
7:00 PM	86%	144	86%	37	181
8:00 PM	72%	121	81%	35	156
9:00 PM	45%	76	68%	29	105
10:00 PM	27%	46	36%	15	61
11:00 PM	9%	15	14%	6	21
12:00 AM	0%	0	0%	0	0

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

Appendix Table 2A

SHOPPING CENTER (TYPICAL DAYS)
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Shopping Center (Typical Days)				
Size	44.000 KSF				
Pkg Rate[2]	5 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	220 Spaces				
	176 Guest Spc.		44 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	1%	2	10%	4	6
7:00 AM	5%	9	15%	7	16
8:00 AM	10%	17	40%	18	35
9:00 AM	30%	50	75%	33	83
10:00 AM	50%	84	85%	37	121
11:00 AM	65%	108	95%	42	150
12:00 PM	80%	134	100%	44	178
1:00 PM	90%	150	100%	44	194
2:00 PM	100%	167	100%	44	211
3:00 PM	100%	167	100%	44	211
4:00 PM	95%	159	100%	44	203
5:00 PM	90%	150	95%	42	192
6:00 PM	80%	134	85%	37	171
7:00 PM	75%	125	80%	35	160
8:00 PM	65%	108	75%	33	141
9:00 PM	50%	84	65%	29	113
10:00 PM	35%	59	45%	20	79
11:00 PM	15%	25	15%	7	32
12:00 AM	0%	0	0%	0	0

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

Appendix Table 3A

FAMILY RESTAURANT
WEEKDAY SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Family Restaurant				
Size	24.000 KSF				
Pkg Rate[2]	8 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	192 Spaces				
	165 Guest Spc.		27 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	18%	29	35%	9	38
7:00 AM	35%	55	53%	14	69
8:00 AM	42%	66	63%	17	83
9:00 AM	53%	83	63%	17	100
10:00 AM	60%	94	70%	19	113
11:00 AM	63%	99	70%	19	118
12:00 PM	70%	110	70%	19	129
1:00 PM	63%	99	70%	19	118
2:00 PM	35%	55	70%	19	74
3:00 PM	32%	50	53%	14	64
4:00 PM	32%	50	53%	14	64
5:00 PM	53%	83	67%	18	101
6:00 PM	56%	87	67%	18	105
7:00 PM	56%	87	67%	18	105
8:00 PM	56%	87	67%	18	105
9:00 PM	42%	66	56%	15	81
10:00 PM	39%	61	46%	12	73
11:00 PM	35%	55	46%	12	67
12:00 AM	18%	29	25%	7	36

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

Appendix Table 4A

FAMILY RESTAURANT
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Family Restaurant				
Size	24.000 KSF				
Pkg Rate[2]	8 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	192 Spaces				
	163 Guest Spc.		29 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	10%	15	50%	15	30
7:00 AM	25%	39	75%	22	61
8:00 AM	45%	69	90%	26	95
9:00 AM	70%	108	90%	26	134
10:00 AM	90%	140	100%	29	169
11:00 AM	90%	140	100%	29	169
12:00 PM	100%	155	100%	29	184
1:00 PM	85%	132	100%	29	161
2:00 PM	65%	101	100%	29	130
3:00 PM	40%	62	75%	22	84
4:00 PM	45%	69	75%	22	91
5:00 PM	60%	93	95%	28	121
6:00 PM	70%	108	95%	28	136
7:00 PM	70%	108	95%	28	136
8:00 PM	65%	101	95%	28	129
9:00 PM	30%	47	80%	23	70
10:00 PM	25%	39	65%	19	58
11:00 PM	15%	23	65%	19	42
12:00 AM	10%	15	35%	10	25

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

Appendix Table 5A

HEALTH CLUB

WEEKDAY SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Health Club				
Size	6.000 KSF				
Pkg Rate[2]	6 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	33 Spaces				
	31 Guest Spc.		2 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	70%	21	75%	2	23
7:00 AM	40%	11	75%	2	13
8:00 AM	40%	11	75%	2	13
9:00 AM	70%	21	75%	2	23
10:00 AM	70%	21	75%	2	23
11:00 AM	80%	24	75%	2	26
12:00 PM	60%	18	75%	2	20
1:00 PM	70%	21	75%	2	23
2:00 PM	70%	21	75%	2	23
3:00 PM	70%	21	75%	2	23
4:00 PM	80%	24	75%	2	26
5:00 PM	90%	27	100%	2	29
6:00 PM	100%	29	100%	2	31
7:00 PM	90%	27	75%	2	29
8:00 PM	80%	24	50%	1	25
9:00 PM	70%	21	20%	0	21
10:00 PM	35%	10	20%	0	10
11:00 PM	10%	3	20%	0	3
12:00 AM	0%	0	0%	0	0

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

Appendix Table 6A

HEALTH CLUB
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]

Land Use	Health Club				
Size	6.000 KSF				
Pkg Rate[2]	6 /KSF				
Mode Adjust	1.00		1.00		
Non-Captive Ratio	0.95		1.00		
Gross Spaces	33 Spaces				
	32 Guest Spc.		1 Emp. Spc.		Shared
Time of Day	% Of Peak [3]	# Of Spaces	% Of Peak [3]	# Of Spaces	Parking Demand
6:00 AM	66%	20	41%	0	20
7:00 AM	37%	11	41%	0	11
8:00 AM	29%	9	41%	0	9
9:00 AM	41%	12	41%	0	12
10:00 AM	29%	9	41%	0	9
11:00 AM	41%	12	41%	0	12
12:00 PM	41%	12	41%	0	12
1:00 PM	25%	8	41%	0	8
2:00 PM	21%	7	41%	0	7
3:00 PM	25%	8	41%	0	8
4:00 PM	45%	13	62%	1	14
5:00 PM	82%	25	82%	1	26
6:00 PM	78%	24	82%	1	25
7:00 PM	49%	15	62%	1	16
8:00 PM	25%	8	41%	0	8
9:00 PM	8%	3	16%	0	3
10:00 PM	1%	0	16%	0	0
11:00 PM	1%	0	16%	0	0
12:00 AM	0%	0	0%	0	0

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] Parking rates for all land uses based on City code.

[3] Percentage of peak parking demand factors reflect relationships between weekday parking demand ratios and peak parking demand ratios, as summarized in Table 2-2 of the "Shared Parking" manual.

EXHIBIT 11

2 - 613

Santa Ana "The Bowery" Mixed-Use Development at 2300 S. Redhill Avenue

Economic and Fiscal Analysis

City of Santa Ana

April 28, 2020

Economics General Limiting Conditions

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Figures

Tables

1. Introduction

The City of Santa Ana (The "City") is seeking to analyze the potential development feasibility and fiscal and economic impacts of a proposed mix-used residential and retail development on approximately 14.69 acres of land on two parcels (430-222-16 and 430-222-07) at 2300, 2310, and 2320 Redhill Avenue (hereafter referred to as the Site) compared to an alternative light-industrial project that would comply with the maximum allowable density under the existing zoning.

The proposed mixed-use project (hereafter referred to as the "Project") comprises 1,110 dwelling units and 80,000 square feet (SF) of retail space, along with communal space for residents and a mix of surface and structured parking. Current uses of the Site include 3 buildings with approximately 212,000 SF of light industrial and flex space built in 1979 and 1981, surface parking, and vacant land. To establish a relevant comparison for high-level planning purposes, AECOM developed a light industrial prototype (hereafter referred to as Industrial Prototype) of new light industrial/flex space with approximately 320,000 SF of rentable building area (RBA) according to current zoning specifications. The development of the Industrial Prototype allows an analysis of the development feasibility of the Project compared to the Industrial Prototype and the estimation of their respective economic and fiscal impacts. The major components of AECOM's analysis are as follows:

- Market assessment - A review of market trends for residential, retail, and industrial land uses in the market area and an assessment of supportable demand for the two alternatives, the Project and the Industrial Prototype, by land use
- Development feasibility analysis - A residual land value analysis of the development feasibility of the two alternatives that estimates the highest and best use of the Site from a development perspective
- Economic impact analysis - An estimate of the economic impacts from construction and operations of the two alternatives
- Fiscal impact analysis – An estimate of the ongoing fiscal impacts of the two alternatives on the City of Santa Ana General Fund

Key Findings

Residential Market Assessment –The Project is oriented towards development patterns occurring in adjacent areas in the cities of Tustin and Irvine that have seen an expansion in mixed-use properties and other uses beyond industrial and office. Newer multifamily properties in the area are characterized by rents more reflective of Orange County market rate properties, low vacancy rates, and strong absorption of new units.

Industrial Market Assessment – Demand for incremental industrial space is driven by employment growth in sectors concentrated in industrial land uses, including Manufacturing, Wholesale Trade and Professional/Technical/Scientific Services in which the City of Santa Ana has relatively large concentrations. Based on projected employment growth, Santa Ana could experience incremental demand of approximately 2.2 million SF of new industrial space by 2026. In the vicinity of the Site, rents for industrial properties have increased by 24% since 2010 after adjusting for inflation and vacancy rates have been below the threshold for structural occupancy.

Retail Market Assessment – Demand for retail space in the Project is driven by local spending patterns of residents, workers, and hotel guests in the vicinity of the Site. It is estimated the Project could support between 65,000-80,000 square feet of new retail space under current conditions and between 80,000-96,000 square feet at buildout of development currently in the known pipeline within a 2-mile radius of the project.

Development Feasibility – Both the Project and Industrial Prototype yield positive and high residual land values (RLV), indicating strong development feasibility. RLV is a method used to determine the value and potential feasibility of a property by estimating the value of the land that remains after factoring in the costs of developing, maintaining and selling the property. AECOM developed pro-formas to compare the development costs and market value of both projects and estimated that the Project would yield an RLV of approximately $65 million ($100/SF of land) and the

Industrial Prototype would yield an RLV of approximately $17 million ($26/SF of land). Current market conditions indicate that development of both projects would be feasible.

Economic Impact – AECOM estimated the economic impacts both of construction and ongoing operations (normalized to 2019) at stable occupancy for the Project and Industrial Prototype for the City of Santa Ana and Orange County. Due to greater construction costs and scale, the estimated one-time construction economic impacts the Project ($498 million) to the City of Santa Ana is greater than the impact of the construction of the Industrial Prototype ($76 million). On the other hand, due to the larger quantity of jobs that generate value to the economy, the estimated annual economic impact of the ongoing operations of the Industrial Prototype ($153 million) to the City of Santa Ana is greater than that of the ongoing operations of The Project ($58 million). Ongoing operations [1]of the Project are estimated to generate over 1,200 jobs in Orange County annually, 349 of which could be captured by Santa Ana. These jobs are likely to be concentrated in Retail, Restaurants, Wholesale Trade and Real Estate with low to medium average annual wages. Ongoing operations of the Industrial Prototype are estimated to generate over 1,400 jobs in Orange County, 638 of which could be captured by Santa Ana. These jobs are likely to be concentrated in Architecture and Engineering, Scientific Research and Development and Wholesale trade with medium to high average annual wages.

Fiscal Impact – AECOM estimated the potential revenues to the City's General Fund from ongoing operations of the Project and Industrial Prototype, both of which are expected to generate a net fiscal surplus. The Project could generate an estimated $2.5 million in annual revenue to the City and cost $1.5 million in expenditures, resulting in an annual net fiscal surplus of approximately $1 million. The Industrial Prototype could generate an estimated $710,000 in annual revenue to the City and $185,000 in expenditures, resulting in an annual net fiscal surplus of approximately $525,000. Calculations for expenditures are based on an estimated service population[2] of approximately 2,300 for The Project and 300 for the Industrial Prototype.

Discussion

The market analysis provides evidence that both the Project and the Industrial Prototype would likely experience sufficient market demand to warrant development interest and attract tenants to the buildout project with strong rents and low vacancy rates. The development feasibility shows that under these market conditions, both alternatives yield positive residual land values (RLV) through a proforma analysis. The Project yields a higher RLV than the Industrial Prototype, but it also requires a much larger investment from the developer and could require further entitlements or impact fee assessments before construction could commence.

The economic impact of the Industrial Prototype is larger than that of the Project, both in terms of employment and total economic output. The median salary of the jobs produced by the Industrial Prototype likely to accrue to the City of Santa Ana are also higher than those created by the Project. The fiscal impact of the Project is greater than that of the Industrial Prototype on both sides of the City's balance sheet (expenditures and revenues). As such, the net fiscal benefit to the City of the Project is greater than that of the Industrial Prototype, but the City would also endure greater costs to extend services to the Project's residents and employees. This results in a Revenue to Expenditure Ratio of approximately 1.6:1 for the Project and 3.8:1 for the Industrial Prototype. While the Project would likely create a greater net fiscal benefit, the greater expenditures to the City could warrant further discussion of cost allocation.

The existing conditions of the industrial buildings at 2300, 2310, and 2320 Redhill Ave in Santa Ana are generally considered to be underperforming in the market and are not achieving the highest and best use for the two parcels (APN's 43-222-07 and 43-2222-16) under currently allowable land use designations. According to Costar, the three buildings encompass approximately 212,000 square feet of warehouse and light manufacturing space built in 1979 and 1981, and a significant portion of one parcel lies vacant. Private investment into the land could achieve greater economics of scale and attract a high-end industrial client who demands updated, modern facilities. This would allow for a single tenant to maximize economic output in this industrial space. Through discussions with the City, AECOM developed the Industrial Prototype that would raise the assessed value, square feet of usable space, and employment to allow a more significant benefit/cost comparison to the Project at full buildout.

[1] Ongoing operations are understood to be annually recurring impacts once the projects are built out, or permanent jobs and economic outputs as long as operations continue

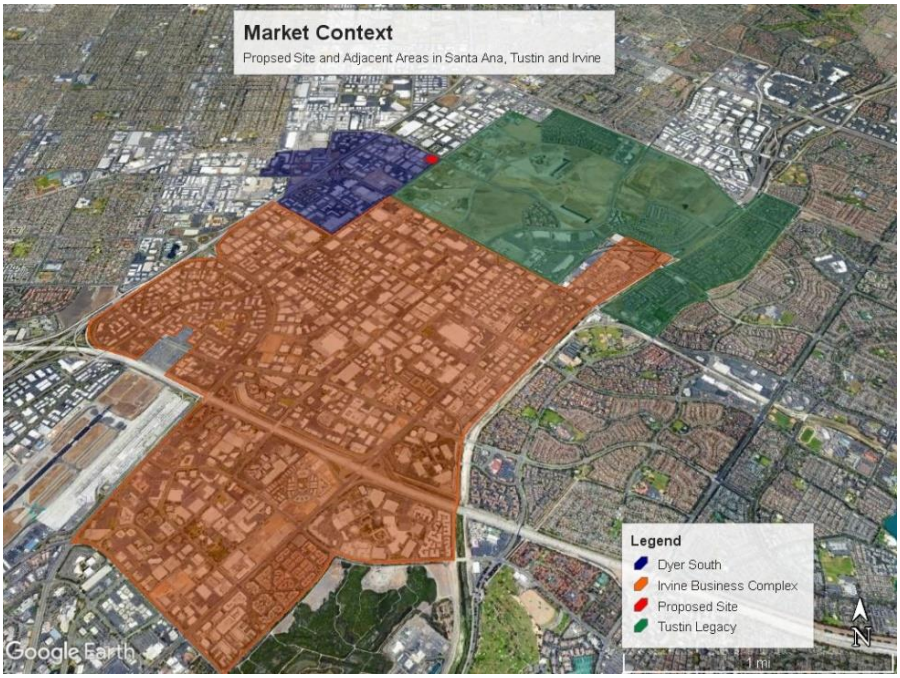
[2] The service population consists of all residents and a percentage allocation of workers based on residency and operating hours of Santa Ana residents and workers

2. Market Assessment

Project Market Context

The Site is located at the southeast corner of the City of Santa Ana in an area with a large concentration of industrial, flex, and office buildings at the intersection of 3 municipalities: Santa Ana, Tustin, and Irvine. While this district of Santa Ana (hereafter referred to as Dyer South) has a long history of these land uses, recent trends have seen a significant and growing addition of retail and residential properties to the local area inventory. Both the cities of Tustin and Irvine have developed plans (Tustin Legacy Specific Plan and the Irvine Business Complex Vision Plan) to encourage mixed-use development that includes residential, professional office, retail, flex, industrial, hospitality and institutional uses. (Figure 1). These plans identify maximum densities and quantities of land uses at buildout.

Figure 1: Market Context for the Project



Source: Google Earth, AECOM

Both the Irvine Business Complex and Dyer South have a considerable existing inventory of industrial, flex, and office uses with an established history, but limited growth has occurred in these areas since 2010, with the exception of multifamily residences in the Irvine Business Complex. Tustin Legacy sits on the site of a former Marine Corps Air Station that saw the development of approximately 1 million SF of retail along its periphery but no other significant development prior to the adoption of the Tustin Legacy Specific Plan in 2013. Since then, approximately 88,000 SF of new retail space has been delivered along with over 500,000 SF of office space and nearly 1,000 multifamily units. Details on the current inventory and growth in these 3 districts since 2000 are shown in Table 1.

The existing inventory, and potential future growth of the land uses included in this local area, factors substantially into the assessment of supportable demand for the Project's proposed land uses, especially as it pertains to retail. While the Project includes a substantial amount of retail, 80,000 SF, it is neither currently planned nor envisioned to be a component of a major retail hub. As such, the Project's retail component is not expected to be directly competitive with nearby regional malls or districts that are drawing on the regional market. Instead, its retail component appears to be oriented towards capturing a portion of demand from future Project households, demand from existing households and incremental household growth in the local area (such as the Heritage and growth in the Tustin Legacy area), and existing employment and incremental employment growth in the local area. Residential

demand is expected to be more regional in nature given the Project's accessibility and proximity to centers of employment, the increasingly regional nature of the housing market, and the Project's market rate rental profile.

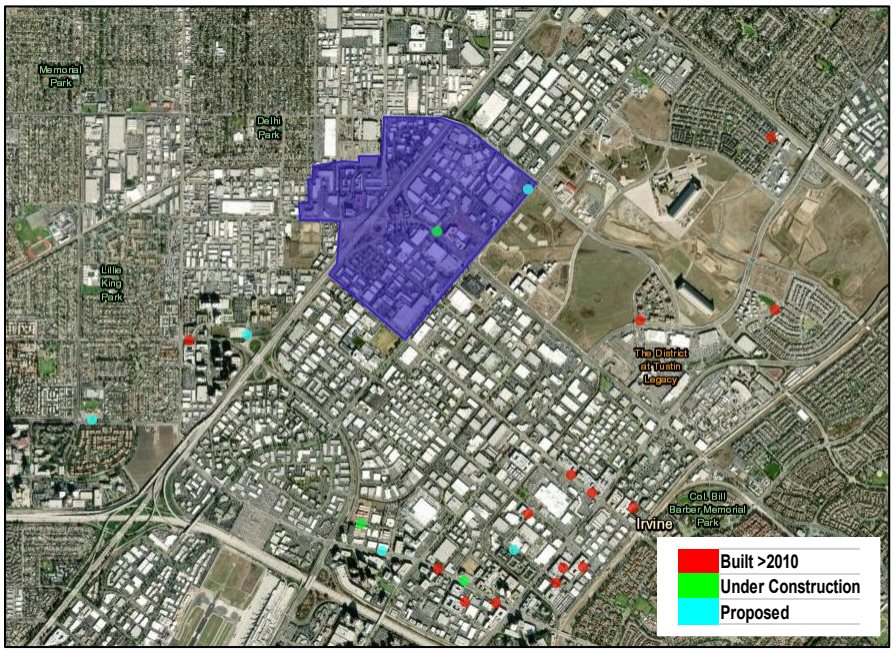
Table 1: Inventory and Growth in 3 Districts

Inventory and Growth in 3 Districts			
	Dyer South	**Irvine Bus Com**	**Tustin Legacy**
Multifamily			
2019 Inventory (Units)	0	8,592	998
Growth 2010-19 (Units)	0	4,086	998
Growth Since 2010 (%)	0%	48%	100%
Retail			
2019 Inventory (SF)	133,789	1,181,459	1,067,109
Growth 2010-19 (SF)	0	26,699	88,465
Growth 2010-19 (%)	0%	2%	8%
Office			
2019 Inventory (SF)	1,939,711	20,428,286	517,217
Growth 2010-19 (SF)	0	787,290	517,217
Growth 2010-19 (%)	0%	4%	100%
Industrial			
2019 Inventory (SF)	1,969,114	10,699,791	0
Growth 2010-19 (SF)	0	51,450	0
Growth 2010-19 (%)	0%	0.5%	0%
Flex			
2019 Inventory (SF)	1,133,883	6,180,044	0
Growth 2010-19 (SF)	9,000	13,530	0
Growth 2010-19 (%)	0.8%	0.2%	0%

Source: Costar, AECOM

There has been significant growth of multifamily dwelling units in the 3 districts since 2010, and an additional 5,694 units are in the current development pipeline, representing a further 50% growth in total inventory. Numerous commercial projects are currently proposed or under construction in the 3 districts, including over 530,000 SF of office, 230,000 SF of flex, and 420,000 SF of healthcare related facilities. Table 2 shows the current development pipeline for the 3 districts. Figure 2 shows the recent construction and pipeline MFR projects in the vicinity of the Dyer South Focus Area.

Figure 2: Recent Multifamily Development and Pipeline



Source: ESRI, Costar, AECOM

Table 2: Current Development Pipeline in 3 Districts

Current Development Pipeline in 3 Districts				
	Dyer South	**Irvine Bus Com**	**Tustin Legacy**	**Total**
Multifamily (units)	1,221*	4,473	0	5,694
Retail (SF)	25,200	37,816	0	63,016
Office (SF)	56,000	426,000	50,000	532,000
Flex (SF)	0	239,000	0	239,000
Hotel (rooms)	0	168	0	168
Health Care (SF)	0	424,413	0	424,413

** These are units associated with the Heritage project which are currently included in the CoStar pipeline.*
Source: Costar, AECOM

The recent and proposed development patterns occurring in the adjacent areas indicate a general shift from traditional industrial uses towards more residential and mixed-use development. Nonetheless, the region within a 2-mile radius of the Site maintains a strong concentration of industrial and professional office space that generates employment and economic growth for the County and, coupled with the existing inventory of these uses and existing residential units, forms the backbone of potential quantifiable supportable retail demand. For this reason, AECOM has analyzed demographic trends and projections from a variety of geographies to better contextualize the demand for both the proposed uses of the Project and the Industrial Prototype.

Demographic Trends

SCAG projections estimate that Santa Ana will experience limited growth in households and employment between 2020 and 2040; however, there is already more residential inventory in the Santa Ana pipeline than is included in these forecast estimates for this entire timeframe. Residential vacancy rates in Santa Ana and Orange County have consistently remained below structural occupancy and, as already noted, the Project's residential orientation is towards the Orange County housing market and to some extent the region beyond. As such, continued growth of

Orange County households and employment are expected to be major drivers of demand for residential uses at the Site, while retail demand is expected to be driven more by local growth.

Table 3: Projected Household Growth

Projected Household Growth					
	2012	**2020**	**2035**	**2040**	**2020-40 Growth**
Irvine	81,835	109,488	122,088	123,364	13%
Santa Ana	73,261	74,886	75,471	75,831	1%
Tustin	25,568	27,234	27,778	27,940	3%
Orange County	999,361	1,073,174	1,136,745	1,153,713	8%
Source: SCAG, AECOM					

The proposed unit mix of the Project includes 228 studios, 574 1-bedroom, 283 2-bedroom units and 15 3-bedroom units, which suggests orientation towards singles and young families that differ significantly in demographic features from the relatively large average Santa Ana household size of approximately 4.4 members per household (according to US Census Bureau ACS 5-year estimates).

Table 4: Projected Employment Growth

Projected Employment Growth					
	2012	**2020**	**2035**	**2040**	**2020-40 Growth**
Irvine	224,435	280,649	313,960	320,033	14%
Santa Ana	154,800	160,604	165,159	165,975	3%
Tustin	37,616	51,818	64,599	66,425	28%
Orange County	1,526,227	1,730,085	1,870,025	1,898,685	10%
Source: SCAG, AECOM					

Employment in the City of Santa Ana is projected to grow at just 3% overall between 2020 and 2040. During the same time period SCAG estimates Orange County will see a 14% increase in overall employment while growth in Irvine and Tustin is estimated to be 10% and 28% respectively over the same period. Demand for industrial, flex or other commercial uses at the Site will result from this wider growth, and the significant industrial/flex/office cluster in Dyer South and the neighboring districts is potentially positioned to capture a portion of this growth.

Market Trends

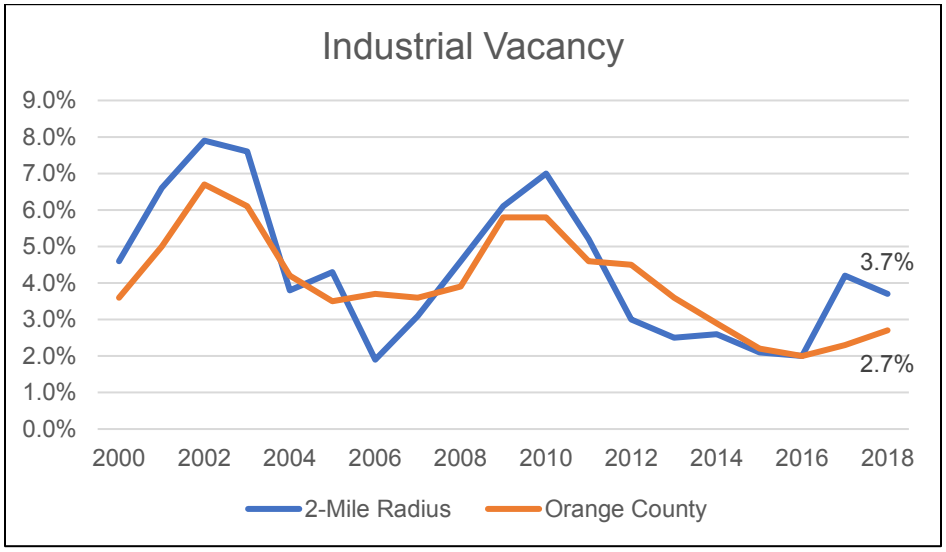
While demand for residential and industrial uses is expected to draw on regional growth primarily from Orange County, detailed characteristics of the retail market potential of the Site is expected to be more reflective of trends in the immediate market area, or approximately a 2-mile radius around the Site. The 2-mile radius encompasses the entirety of the Dyer South and Tustin Legacy districts, approximately 2/3 of the Irvine Business Complex, and the cluster of industrial land uses in southeastern Santa Ana. Trends such as vacancy rates, average rents, and inventory growth in the 2-mile radius of the various proposed land-uses offer insights that could determine the development feasibility of the Project and the Industrial Prototype. Figure 3 shows the geographical context of the 2-mile radius.

Figure 3: 2-mile Radius around the proposed site of The Project

Source: Google Earth, AECOM

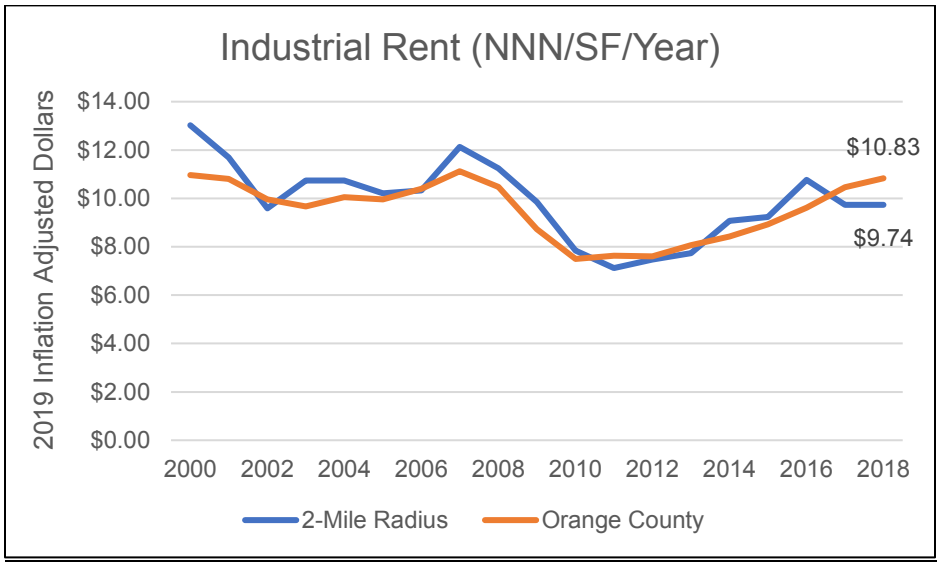
Industrial

Figure 4: Industrial Vacancy



Source: Costar, AECOM

Figure 5: Industrial Vacancy



Source: Costar, BLS, AECOM

The industrial vacancy rates for the 2-mile radius have consistently tracked those of the Orange County market as a whole and, as of 2018, were lower (2.7%) than that of Orange County (3.7%). These vacancy rates have remained relatively stable since 2000 with slight fluctuations that correlate with periods of recession. Despite relative economic downturns, the vacancy rate has remained below the industry standard full structural occupancy rate of 10% associated with industrial uses. This indicates a healthy industrial market.

Similarly, industrial rent in the 2-mile radius has been historically similar or higher than that of Orange County through 2016. The rent (NNN/SF/year) in Orange County was higher ($10.83) than that of the 2-mile radius ($9.74) at the end of 2018. A Triple Net lease (NNN) is a lease agreement wherein the tenant pays all property expenses (taxes, insurance, maintenance) in addition to rent and utilities. NNN agreements are typical of industrial and retail properties that rent to a variety of businesses with different demands on the property.

Adjusted for inflation, industrial rent increased 24% in the 2-Mile Radius and 44% in Orange County from 2010-2018, again indicating a healthy industrial market.

Table 5: Industrial Inventory and Growth 2000-19

Industrial Inventory and Growth 2000-2019		
	2-Mile Radius	**Orange County**
Inventory	28,456,795	232,289,991
Share of OC	12%	100%
Growth 2010-19 (SF)	51,450	6,482,042
Growth 2010-19 (%)	0.2%	2.8%
Share of OC Growth	0.8%	100%

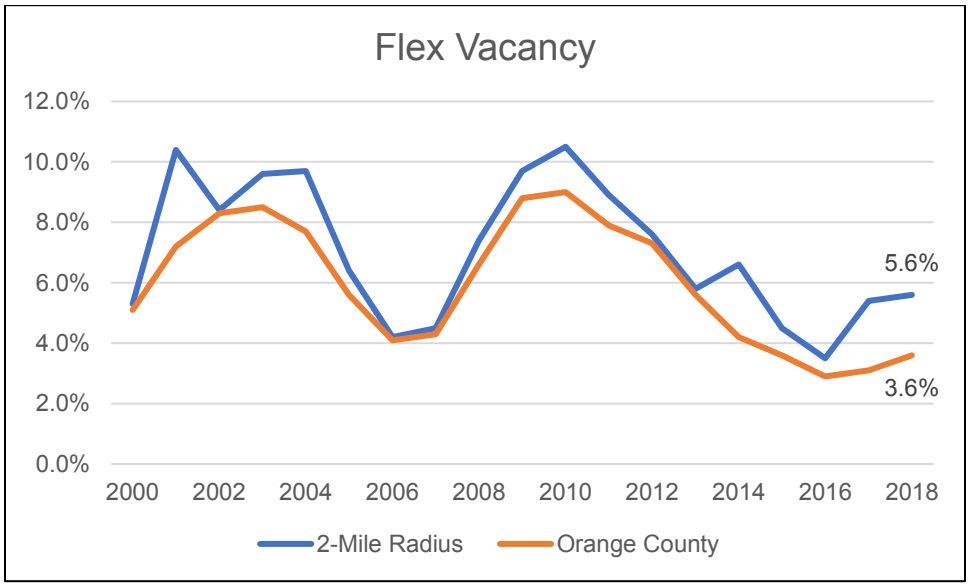
Source: Costar, AECOM

The 2-mile radius represents a significant portion (12%) of Orange County's total industrial inventory; however, growth has been minimal since 2010 (<1%).

While the Orange County growth of industrial space has been more robust in the same timeframe it has also not grown substantially. This trend is largely consistent with national transformational trends in the industrial and manufacturing market where employment growth has generally been tepid as a result of increasing automation. This has dampened the demand for traditional industrial space in recent years even as output has grown substantially.

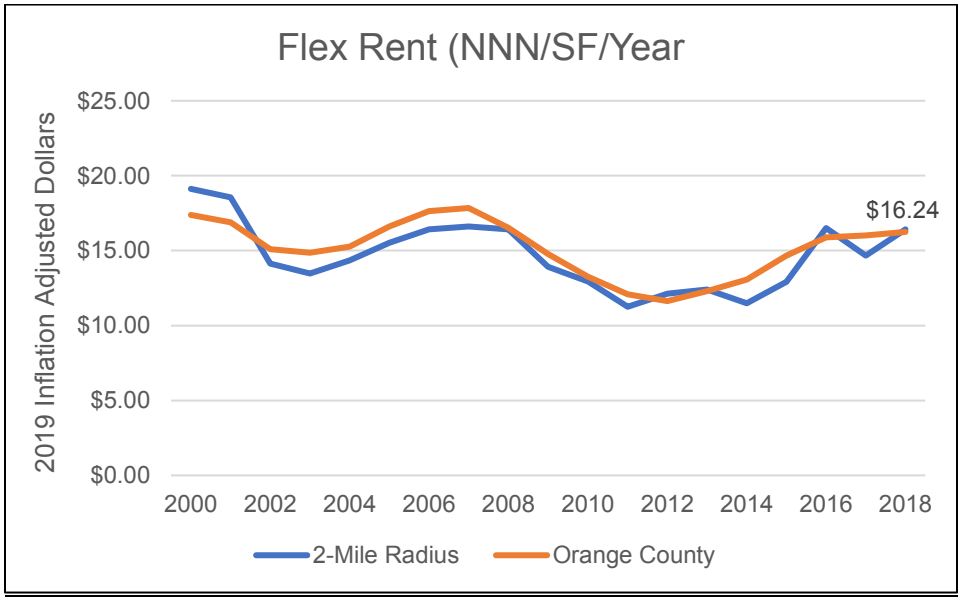
Flex

Figure 6: Flexy Vacancy



Source: Costar, AECOM

Figure 7: Flex Rent



Source: Costar, AECOM

Flex properties are designed for versatility, combining professional office space with some combination of research and development, industrial, warehouse and retail. Flex buildings are sometimes called Tech or Incubator space.

The versatility of this space has also resulted in vacancy rates that have experienced some volatility since 2000. The vacancy rate for the 2-mile radius was higher (5.6%) than that of Orange County (3.6%) at the end of 2018, both of which are much lower than their 2010 peaks above 10% and 9% respectively.

Flex rent in the 2-mile radius has been historically higher than industrial properties, which also tend to be larger on average. The 2-mile radius has tracked the trend of Orange County and was $16.24 (NNN/SF/year) for both geographies at the end of 2018.

Adjusted for inflation, Industrial rent increased 27% in the 2-Mile Radius and 22% in Orange County from 2010-2018, again indicating a healthy industrial market.

Table 6: Flex Inventory and Growth 2000-19

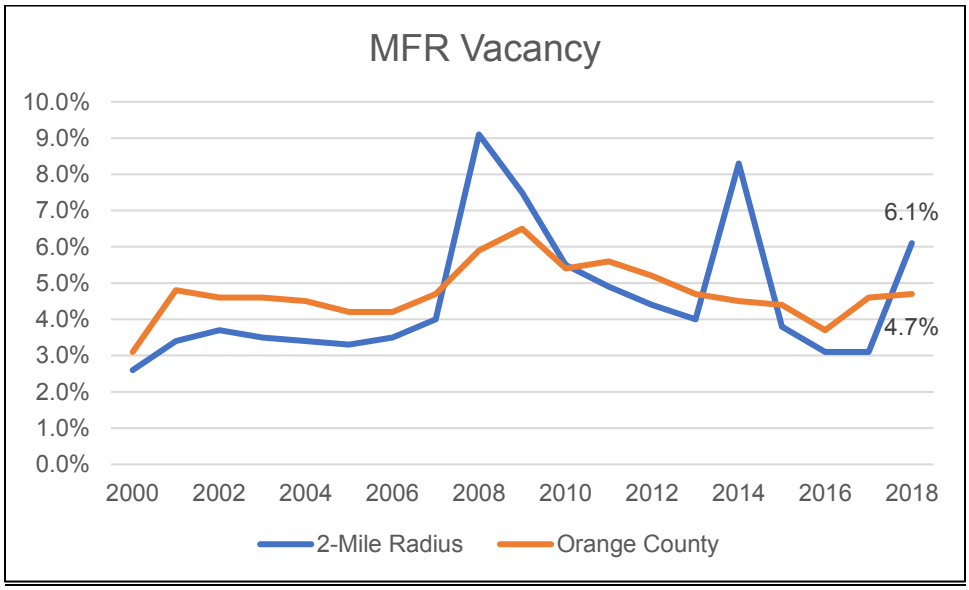
Flex Inventory and Growth 2000-2019		
	2-Mile Radius	**Orange County**
Inventory	10,887,724	67,826,884
Share of OC	16%	100%
Growth 2010-19 (SF)	22,530	159,713
Growth 2010-19 (%)	0.2%	0.2%
Share of OC Growth	14%	100%
Source: Costar, AECOM		

While the 2-mile radius represent a significant portion (16%) of Orange County's total flex inventory, growth has been minimal since 2010 (<1%). Nonetheless, growth across Orange County for flex space has been very low (<1%) and the 2-mile radius has captured 14% of this limited growth.

As shown in Table 2, a single project in the current pipeline will add over 230,000 SF of flex space to the 2-mile radius, greater than total inventory growth for all of Orange County since 2010. Many of the same factors that are impacting traditional industrial space are also dampening demand for flex space.

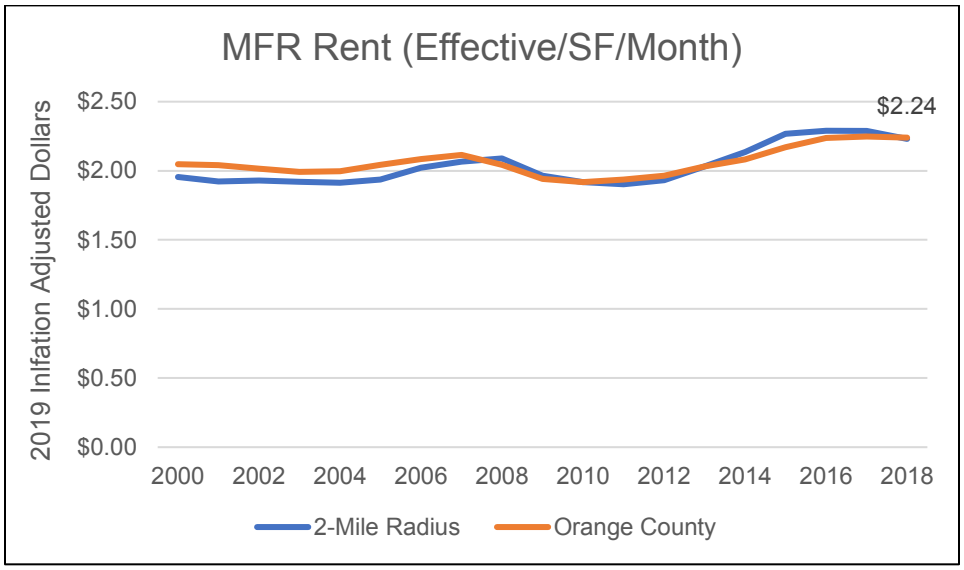
Multifamily

Figure 8: MFR Vacancy



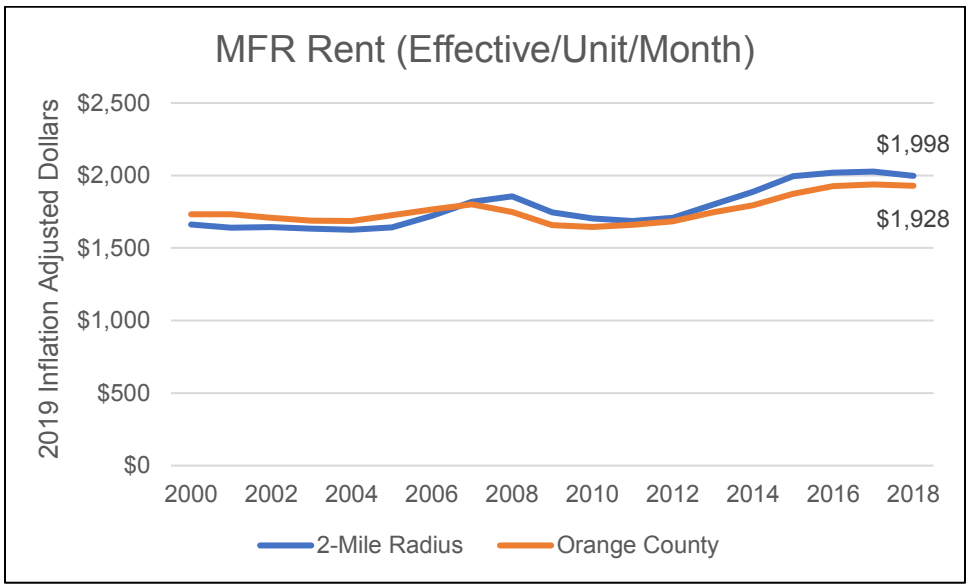
Source: Costar, AECOM

Figure 9: MFR Rent per SF



Source: Costar, BLS, AECOM

Figure 10: MFR Rent per Unit



Source: Costar, BLS, AECOM

While the multifamily vacancy rate of the 2-mile radius has risen following additions of inventory around 2008, 2014 and 2018, the market has absorbed these units fairly quickly as the rate stabilizes between 3%-5% (Inventory has grown 27% since 2010, see Table 2.7 below).

Multifamily rent for both geographies has increased gradually since 2000 and was found to be approximately $2.24 per SF or $1,998 and $1,928 in the 2-mile radius and Orange County respectively at the end of 2018. After adjusting for inflation, this represents approximately a 17% increase in rent for both geographies and has pushed inflation adjusted average rents slightly above their previous peak prior to the last recession.

Rent per unit is helpful to assess the health of a market, while rent per SF is an important input for the development feasibility analysis modeling of the Project in the following sections.

Table 7: Multifamily Inventory and Growth 2000-19

Multifamily Inventory and Growth 2000-2019		
	2-Mile Radius	**Orange County**
Inventory	13,331	302,327
Share of OC	4%	100%
Growth 2010-19 (Units)	3,554	31,251
Growth 2010-19 (%)	27%	10%
Share of OC Growth	11%	100%
Source: Costar, AECOM		

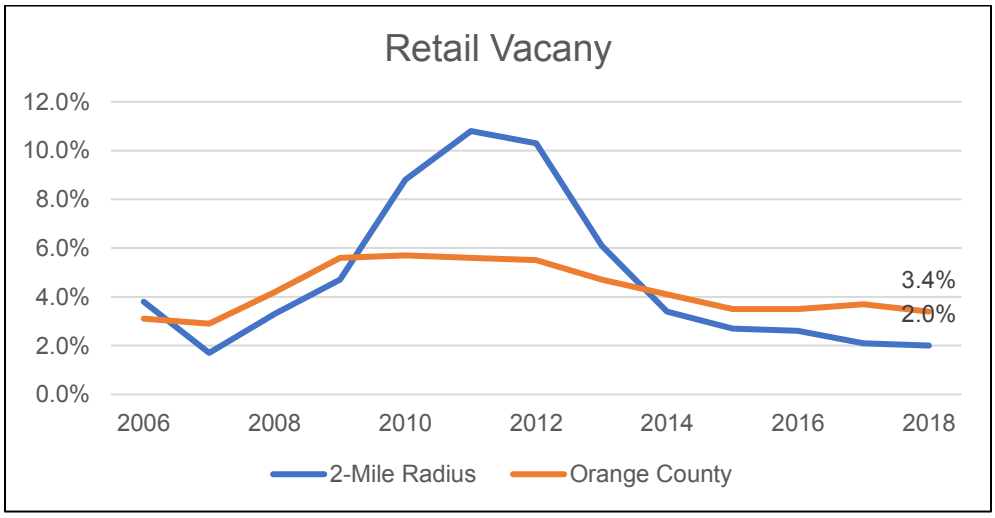
The strong growth numbers, along with low vacancy rates and climbing inflation adjusted rents indicate a healthy multifamily market.

While the 2-mile radius comprises only 4% of the total inventory of multifamily units in Orange County, it accounts for 11% of total growth since 2010, reflecting the ongoing transformation of this area into both a residential and employment center.

Continued mixed-use development that combines employment opportunities with livable communities is likely to maintain demand for incremental multifamily residence dwelling units in the 2-mile radius.

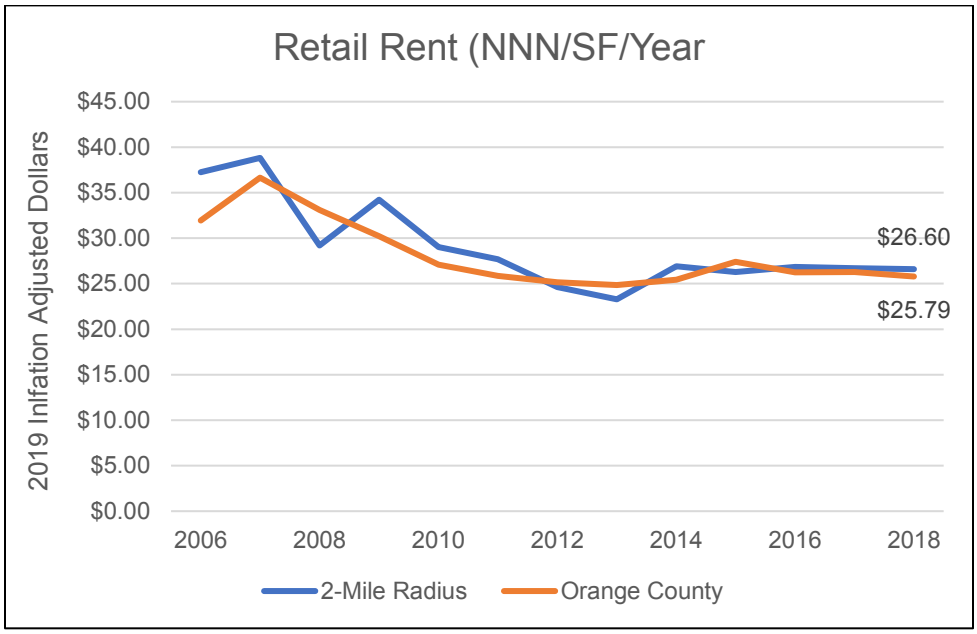
Retail

Figure 11: Retail Vacancy



Source: Costar, AECOM

Figure 12: Retail Rent



Source: Costar, BLS, AECOM

The vacancy rate for retail properties in the 2-mile radius rose above 10% in 2011 but has remained very low since 2014. At the end of 2018, the vacancy rate for the 2-mile radius was 2%, and that of Orange County was also very low at 3.4%.

Adjusted for inflation, retail rent decreased 8% in the 2-Mile Radius and 5% in Orange County from 2010-2018. This is the only land use for which rent has declined once adjusted to the Consumer Price Index. Nominal rents increased slightly but did not match the rate of inflation. Generally, this decline is indicative of national trends for retail where traditional brick-and-mortar retail has found itself increasingly competing with online retail. This has led to a shift to destination retail which focuses on both the redevelopment of existing retail and development of new retail that focuses on experiences and entertainment in order to thrive. This is generally consistent with the orientation of retail uses proposed in the Project.

These wider trends help explain the lack of rent growth even as vacancy rates have decreased below what is considered full retail structural occupancy (5%), indicating a continued demand for retail space. Class B and C retail properties in the 2-mile radius lower the average rent for the area compared to the newer Class A high-end destination retail establishments.

Table 8: Retail Inventory and Growth 2000-19

Retail Inventory and Growth 2000-2019		
	2-Mile Radius	**Orange County**
Inventory	3,413,062	142,979,370
Share of OC	2%	100%
Growth 2010-19 (SF)	137,016	4,594,568
Growth 2010-19 (%)	4%	3%
Share of OC Growth	3%	100%

Source: Costar, AECOM

The retail inventory in the 2-mile radius represents a relatively small percentage of both the County total and share of growth and covers a wide variety of retail types including both older neighborhood-serving commercial corridors, such as the Main Street Corridor, and large destination retail centers, such as the District at Tustin Legacy.

Industrial Market Demand

AECOM estimated industrial demand for the Industrial Prototype based on existing market conditions for industrial and flex uses and estimated incremental demand resulting from employment growth in sectors heavily concentrated in industrial land uses. Demand for industrial space is driven by regional job growth, and the likely mix of occupations in Orange County and Santa Ana in the coming years will determine the feasibility of developing new industrial space at the Site. Table 9 shows the most recent data for employment by North American Industry Classification System (NAICS) sectors in the 2-mile radius, City of Santa Ana, and Orange County.

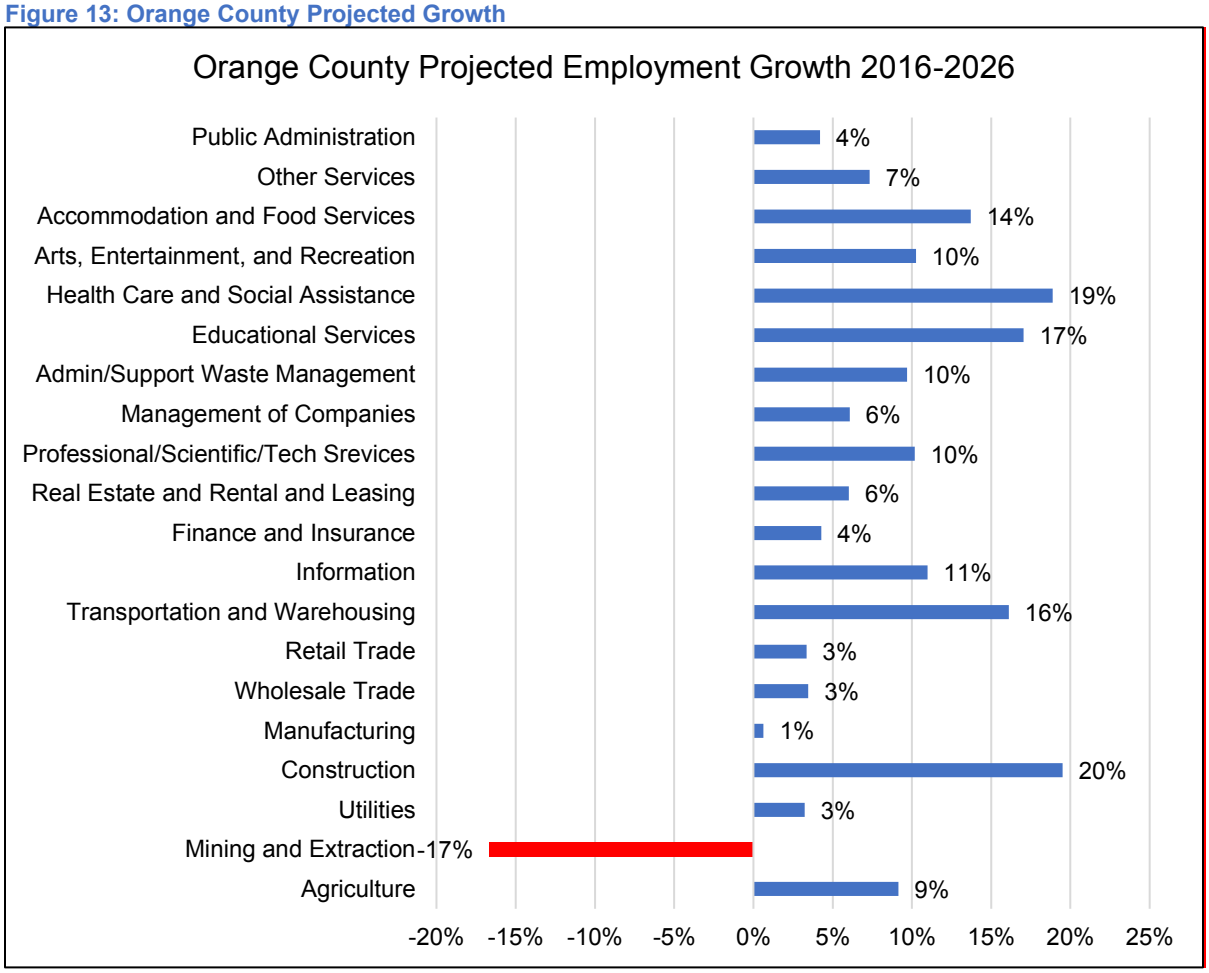
Table 9: Employment by Sector

2017 Employment by Sector			
	2-Mile Radius	**Santa Ana**	**Orange County**
Agriculture	77	52	2,018
Mining and Extraction	10	11	569
Utilities	592	695	5,939
Construction	8,330	7,182	98,346
Manufacturing	28,552	19,043	156,145
Wholesale Trade	11,686	6,671	90,964
Retail Trade	5,884	11,986	144,569
Transportation and Warehousing	1,673	1,766	25,243
Information	3,292	1,543	29,189
Finance and Insurance	8,806	7,392	84,807
Real Estate and Rental and Leasing	3,262	2,424	37,773
Professional/Scientific/Tech Services	15,109	11,596	131,371
Management of Companies	3,024	2,516	35,643
Admin/Support Waste Management	14,571	16,700	130,681
Educational Services	883	12,438	106,137
Health Care and Social Assistance	5,755	11,746	165,203
Arts, Entertainment, and Recreation	348	1,101	42,689
Accommodation and Food Services	5,421	7,835	141,730
Other Services	2,401	3,258	42,913
Public Administration	0	22,727	38,051
Total	**119,676**	**148,682**	**1,509,980**

Source: LEHD, AECOM

Employment concentrations are similar for the City of Santa Ana and the 2-mile radius surrounding the Site, with a high number of jobs in Manufacturing, Professional/Scientific/Technical, and Administration/Support for Waste Management and Remediation. These sectors typically operate in industrial and flex space and provide incomes that range from medium (Equipment Technician, annual average salary $56,000) to high (Industrial Manager, annual average salary $120,000).

Figure 13: Orange County Projected Growth



Source: EDD, LEHD, AECOM

The California Employment Development Department (EDD) tracks industry sector and employment patterns at the county level. The EDD projects that between 2016 and 2026, Orange County growth will be the strongest in Construction, Healthcare, Educational Services, and Transportation and Warehousing.

Both Construction, and Transportation and Warehousing generate demand for industrial space. Further growth in Professional/Scientific/Technical, and Administration/Support for Waste Management and Remediation could also generate demand for new flex and industrial space.

While EDD projections are highly regarded to assess a county-wide economy, no such detailed projections exist at the municipal level. Nonetheless, AECOM estimated future incremental demand for new industrial and flex space based on the City's current capture of projected county-wide employment growth by sector. Estimates assume a 90% stable occupancy rate and an average of 500 SF per worker, which is a common assumption for light industrial land uses.

Table 10: Santa Ana Projected Industrial Employment

Santa Ana Current and Projected Industrial Employment 2017-2026			
	2017 Jobs	Santa Ana Capture	Estimated Incremental Growth 2017-2026
Construction	7,182	7%	1,388
Manufacturing	19,043	12%	122
Wholesale Trade	6,671	7%	205
Transportation and Warehousing	1,766	7%	273
Professional/Scientific/Tech Services	11,596	9%	1,156
Admin/Support Waste Management	16,700	13%	1,674
Total	63,000		5,000
Estimated SF of Industrial Space	35,000,000		2,700,000
Note: Totals are rounded and my not sum			
Source: LEHD, EDD, AECOM			

If Santa Ana maintains its current capture rate for employment concentrated in industrial land uses, then employment in these sectors could increase by approximately 5,000 by 2026. These jobs could support approximately 2.7 million additional SF of industrial/flex space.

There are currently approximately 540,000 SF of industrial space under construction in the 2-mile radius surrounding the site, with 500,000 SF on a 24-acre lot just east of the Dyer South district in Santa Ana (located at 666 E. Dyer Rd.). To accommodate future employment growth in Santa Ana according to current trends and projections from the EDD, approximately 2.2 million SF could be demanded by 2026.

Retail Demand

AECOM estimated retail demand for the Project based on existing residential, employment, and visitor demand, and estimated incremental demand resulting from these land uses that have been identified in the development pipeline (according to CoStar). In the following discussion and tables there is a focus on current land uses and buildout. Current refers to land uses that are on the ground, while buildout refers to what is included in the development pipeline that can be reasonably expected within the next three to five years.

Based on a review of the broader Orange County retail market, it is assumed that Project retail is most likely to serve demand from on-site residents and workers, as well as workers, residents, and hotel guests that are close to the project. A 2-mile radius was utilized to estimate demand. AECOM preliminarily estimates that the Project could support between 65,000-80,000 SF of new retail space under current conditions and between 80,000-96,000 SF at buildout of development currently in the known pipeline within a 2-mile radius of the project.

Beyond the pipeline of projects (currently proposed or under construction), the Tustin Legacy Specific Plan allows 3,500 additional housing units and approximately 500,000 SF of commercial space that could be added at some point in the future. It is important to note that the timeline for delivery of this additional inventory is unknown and is contingent upon economic conditions and other factors. As such, this analysis does not include any estimate of supportable retail demand from this future potential buildout. A portion of the household spending from these additional units would be captured at the Bowery project; however, the timeline uncertainty involved in the delivery of such units makes it infeasible to estimate responsibly. This potential demand is contingent both on the actual mix of businesses that occupy the retail space at the Project and the characteristics of the future competitive supply in the vicinity of the Project. AECOM estimates that stabilized occupancy of this planned space could create demand for an additional 4,800-6,000 SF of retail space at the Project beyond the estimated 80,000-96,000 SF at buildout sited in the preceding paragraph.

Supportable on-site retail demand is estimated based on a reasonable Project capture rate of resident, worker, and hotel guest expenditures within both a ½-mile radius and 2-mile radius. Higher capture rates are assumed within the ½-mile radius as a result of it being walk accessible. There are approximately 3.4 million SF of retail space within a 2-mile radius of the Project, including a variety of destination, neighborhood and convenience options, and approximately 75,000 SF in the current development pipeline. AECOM estimated on-site supportable retail demand for the Project based on characteristics of households, employees, and hotel guests under current conditions, and at buildout of land uses currently in the pipeline in the 2-mile radius surrounding the Project, which includes the Tustin Specific Plan. Buildout estimates include stable occupancy of residential, commercial, and industrial land uses for all known projects currently proposed and under construction. Capture rates for retail space in the Project are a reasonable estimate based on current and future competitive supply. The following tables detail findings (Figures in the tables are rounded and may not sum). Assumptions and details of data sources follow.

Table 11: Retail Expenditures - Households

Estimated Bowery Capture of Household Retail Expenditures						
	1/2 Mile Radius		2 Mile Radius*		Total	
	Current	Buildout**	Current	Buildout**	Current	Buildout**
Housing Units	0	2,248	22,922	23,434	22,922	25,682
Households (95% occupancy)	0	2,136	21,776	23,434	21,776	25,570
On-Site	0	1,027	0	0	0	1,027
Expenditure Site Capture	0	7.5%	0.0%	0.0%	0.0%	0.0%
Off-Site	0	1,221	22,922	23,434	22,922	24,594
Site-Capture(%)	0	7.5%	2.5%	2.5%	2.5%	2.5%
Median HH Income	0	$70,000	$70,000	$70,000	$70,000	$70,000
HH Retail Expenditures* **	0	$21,000	$21,000	$21,000	$21,000	$21,000
Total Estimated HH Retail Ependitures	0	$45,000,000	$455,000,000	$490,002,849	$455,334,069	$534,658,245
Total Estimated HH Expenditures Capture	0	$3,430,000	$11,380,000	$12,250,000	$11,380,000	$15,680,000

*2 Mile Radius is exclusive of 1/2 Mile Radius to avoid double counting. Numbers are rounded and may not sum.
** Assumes stable occupancy of dwelling units (95%) in The Heritage, Bowery, and all projects in the known current pipeline
***BLS asssumes 30% of meidian income is spent on all retail categories, site-capture rate adjusted for probable retail type

Source: ESRI, BLS, Costar, California DOF, AECOM

AECOM estimates that existing households within the 2-mile radius generate approximately $11.4 million of total expenditures under current conditions and $15.6 million that could be captured by the Project at buildout of uses in the pipeline. These expenditures are based on ESRI estimates of the median household income in the 2-mile radius ($70,000) and the proportion of that income that is spent of retail purchases of all types (30%).AECOM then estimated the capture rates for those living on-site, within a ½ mile radius, and within a 2-mile radius based on reasonable assumptions of spending at retail establishments that is likely to occupy the space as detailed in the Project's development program.

Table 12: Retail Expenditures - Employees

Estimated Bowery Capture of Employee Retail Expenditures						
	1/2 Mile Radius		2 Mile Radius*		Total	
	Current	Buildout**	Current	Buildout**	Current	Buildout**
Employees	7,285	10,097	99,828	103,803	107,113	113,899
On-site	0	304	0	0	0	304
Annual Expenditures***	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500
Site Capture	10%	10%	0%	0%	0%	0%
Off-site	7,285	9,793	99,828	103,803	107,113	113,595
Annual Expenditures***	$4,500	4,500	$4,500	4,500	$4,500	4,500
Site Capture	7.5%	7.5%	2.5%	2.5%	2.5%	2.5%
Total Estimated Employee Retail Expenditures	$32,782,500	$45,434,548	$449,223,840	$467,111,369	$482,006,340	$512,545,917
Total Estimated Employee Expenditures Capture	$2,460,000	$3,441,000	$11,230,000	$11,678,000	$13,690,000	$15,120,000

*2 Mile Radius is exclusive of 1/2 Mile Radius to avoid double counting. Numbers are rounded and may not sum.
** Assumes stable occupancy of commercial/industrial space in The Heritage, Bowery, Flight and all projects in the known current pipeline using Employee/Square Foot industry standards by land use type
***Based on ICSC data for average workday spending for office and retail workers transportation, grocery stores and warehouse clubs

Source: ESRI, BLS, LEHD, Costar, ICSC, AECOM

A similar approach was utilized to estimate demand from employees. AECOM estimates that employee demand could generate approximately $13.7 million of total expenditures under current conditions and $15.1 million at buildout that could be captured by Project retail at buildout of uses in the pipeline.

The US Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) estimates that there are 7,300 and 100,000 workers respectively within a ½-mile and 2-mile radius of the project. Employment sectors include a wide variety of manufacturing, professional and technical services, retail, and others. This was then combined with

estimates for employees at buildout of pipeline uses from numerous sources that track economic and employment trends in various land uses (office, retail, industrial, and hotel).

Estimated workday spending per employee data from estimates by the International Council of Shopping Centers' Research Department was applied to the total number of employees.

In the subsequent step, AECOM estimated Project retail demand capture rates of employee expenditures within a ½-mile radius and within a 2-mile radius based on reasonable assumptions of spending of the types of retail establishments likely to occupy the space as outlined in the Project development program.

Table 13: Retail Expenditures - Hotels

Estimated Bowery Capture of Hotel Guest Retail Expenditures						
	1/2 Mile Radius		2 Mile Radius*		Total	
	Current	Buildout**	Current	Buildout**	Current	Buildout**
Hotel Guest (average per night)	125	298	3,066	3,066	3,191	3,364
Average Annual Spending/Guest***	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000
Total Annual Guest Spending	$1,630,000	$3,880,000	$39,850,000	$39,850,000	$41,500,000	$43,750,000
Site Capture (%)	10%	10%	2.5%	2.5%	2.5%	2.5%
Total Estimated Hotel Guest Sales Capture	$163,000	$388,000	$995,000	$995,000	$1,160,000	$1,385,000
*2 Mile Radius is exclusive of 1/2 Mile Radius to avoid double counting. Numbers are rounded and may not sum.						
**Assumes stable occupancy of Staybridge Suites						
***Based on CBRE 2018 data for occupancy.						
Source: Costar, CBRE, AECOM						

Estimates from hotel guest expenditures were also estimated. AECOM estimates that hotel guests could generate approximately $1.2 million in total expenditures under current conditions and $1.4 million at buildout that could be captured by Project retail at buildout of land uses in the current pipeline.

CBRE includes the Project in the Orange County Airport sub-market that spans the adjacent areas of Santa Ana, Irvine, and Tustin. The 2018 CBRE report estimates that hotel occupancy for this sub-market averaged 76% with 1.35 guests per room night.

Staybridge Suites is the only hotel project in the current pipeline, but developments in the Tustin Legacy Specific Plan or the Irvine Business Complex Community Development could add more hotel rooms to the inventory in the future. Because those are not included in the pipeline and not expected to be built in the near future, they have not been included in this analysis.

Table 14: Retail Expenditures Total

Estimated Bowery Capture of Household, Employee and Hotel Guest Retail Expenditures						
	1/2 Mile Radius		2 Mile Radius*		Total	
	Current	Buildout**	Current	Buildout**	Current	Buildout**
Total Estimated HH Expenditures Capture	0	$3,525,000	$11,980,000	$12,250,000	$11,980,000	$15,680,000
Total Estimated Employee Expenditures Capture	$2,460,000	$3,455,000	$11,230,000	$11,780,000	$13,690,000	$15,235,000
Total Estimated Hotel Guest Sales Capture	$163,000	$388,000	$995,000	$995,000	$1,160,000	$1,385,000
Total Estimated Retail Demand Capture	$2,620,000	$7,260,000	$23,610,000	$27,480,000	$26,830,000	$32,300,000
Supportable Retail SF ($350/SF)	7,800	22,000	71,000	75,000	80,000	96,000
Supportable Retail SF ($425/SF)	6,500	18,000	58,000	62,000	65,000	80,000
*2 Mile Radius is exclusive of 1/2 Mile Radius to avoid double counting. Numbers are rounded and may not sum.						
**Assumes stable occupancy of The Heritage, Bowery, Flight, Staybridge Suits and all known current pipeline.						
***Supportable Retail SF has been grossed up to account for a 5% structural vacancy.						
Source: ESRI, BLS, LEHD, Costar, California DOF, ICSC, AECOM						

The estimated capturable expenditures from residential, employee, and visitors were then combined to establish a reasonable estimate of total estimated expenditure capture by Project retail and supportable retail space. AECOM estimates that Project retail could capture an estimate of approximately $26.8 million in retail expenditures under current conditions and $32.3 million at buildout of land uses in the current pipeline.

A range of $350-$425 of retail sales per SF was utilized to establish an approximate range of retail space at the Project.

AECOM estimates that the Project could capture sufficient residential, employee, and visitor spending to support between 65,000-80,000 SF of new retail space under current conditions and between 80,000-96,000 SF at buildout of uses currently in the pipeline.

3. Development Feasibility

AECOM estimated the residual land value (RLV) of the land uses according to the development scenarios of both the Project and Industrial Prototype and considered the projected market demand for these land uses in the City of Santa Ana and representative comparable districts of Orange County. This analysis allows a comparison of the highest and best use for the Site, from a development perspective, and the financial implications of development under current market conditions. The use of the Industrial Prototype is to compare the impact of the Project to that of the Industrial Prototype.

The feasibility analysis of the various land uses is based on a static pro forma model, which simulates the economic conditions a developer would consider in deciding whether to pursue a project. As such, the model includes typical direct and indirect costs a developer would incur, market revenue potential, and a standard rate of return a developer would expect as compensation. Total estimated project costs (including the assumed return) are subtracted from estimated project revenue to arrive at a net residual land value. Figure 14 details a simplified infographic of RLV. If the net value is positive and high enough to pay for land at current market rates, the project is considered financially feasible. Otherwise, the proposed project is considered infeasible. This approach generates a broad estimate of development feasibility, which is acceptable for planning-level analysis.

Figure 14: Residual Land Value

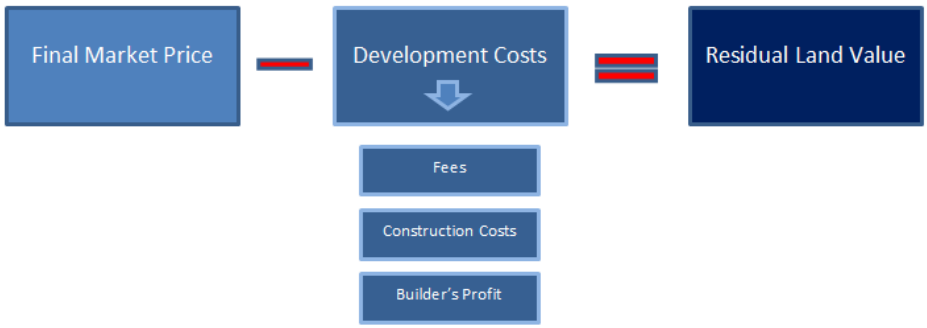


Table 15 shows the summary results of the pro-forma analysis and estimation of RLV for both the Project and Industrial Prototype. Assumptions about rents for the various land uses were derived from the market assessment and selection of representative projects in Orange County. RLV calculations are sensitive to fluctuations in the market for both rents and development costs (hard and soft) and offer only a broad estimate of actual market prices.

Table 15: Residual Land Value Summary

Residual Land Value Summary		
	The Project	**Industrial Prototype**
Site Acres	14.7	14.7
Floor to Area Ratio (FAR)	1.80	0.45
Gross Building Area (GBA)	1,150,000	355,000
Estimated Total Value	$509,000,000	$65,406,977
Estimated Total Costs	$444,000,000	$48,490,005
Residual Land Value (RLV)	$65,000,000	$16,916,972
RLV per Land SF	$100	$26
RLV per GBA SF	$55	$56
Feasible	Yes	Yes

Note: Numbers are rounded and my not sum
Sources: Costar, CBRE, RS Means, Orange County Register, AECOM

Both the Project and the Industrial Prototype yield significant positive RLV under current market conditions. Market demand for new residential, retail, and industrial properties in the regional market of the Site suggest that both projects are financially feasible at buildout. These RLV estimates include costs of demolition of existing land uses but exclude land acquisition costs.

Detailed pro-formas for both the Project and Industrial Prototype are shown in **Appendix A** and a short explanation of sources and assumptions follows.

Capitalization Rate
The capitalization rate (cap rates) is the rate of return on a real estate investment, calculated by dividing the Net Operating Income (NOI) by the current market value. Cap rates for multifamily, retail, and industrial land uses are based on CBRE H1 2019 estimates for the Orange County market. A cap rate of 6.5 was assumed for retail, while a cap rate of 4.0 was assumed for both multifamily and industrial.

Rent
Commercial rent was estimated based on comparative analysis of recent lease agreements for comparative new (since 2017) mixed-use residential/retail and industrial properties in Santa Ana and the adjacent areas of Irvine and Tustin. AECOM assumed an annual Triple Net Lease (NNN) Rent per SF of $30 for retail space and $11 for industrial.

Construction Costs
Direct costs for the pro-forma models draw from other recent studies of comparable construction in Orange County and comparable areas of Los Angeles including RS Means 2019 construction cost estimates. Indirect costs are largely based on either ratios of direct costs or per square foot allocations typically used in planning-level cost estimation.

To verify the assumptions and market value of the pro-formas, AECOM surveyed recent sales transactions of representative properties to compare the price per SF or unit of The Project and Industrial Prototype. The pro-forma for the Project estimated a market price of $721/SF of Land and approximately $449,000 per unit. The pro-forma for the Industrial Prototype estimated a market price of $117/SF of Land and approximately $234/SF of building area (RBA). Table 16 shows comparable recent transactions of comparable developments.

Table 16: Recent Sales Transactions

Recent Sales Transactions for Industrial and Multifamily Properties					
Industrial					
Address	**Acres**	**RBA**	**Price/RBA**	**Price/Land**	**Date**
9300 Toledo Way, Irvine	75.22	1,193,692	$233	$85	Jul-19
1730 S Anaheim Way, Anaheim	6.93	143,930	$230	$110	May-18
15025 Proctor Ave, Industry	5.91	257,440	$225	$113	Nov-18
4278 N Harbor Blvd, Fullerton	8.66	212,202	$186	$105	Jan-19
Multifamily					
Address	**Acres**	**Units**	**Price/Unit**	**Price/Land**	**Date**
17321 Murphy Ave, Irvine	3.63	280	$423,214	$749.42	Nov-18
251 Orangefair Ave, Fullerton	6.38	323	$405,573	$471.37	Jun-18
1105 E Katella Ave, Anaheim	4.25	386	$341,192	$711.39	Jan-19
1091 E 1st St, Santa Ana	5.07	264	$371,212	$443.74	Jun-19
Source: Costar, AECOM					

Comparable transactions reveal that the estimated market prices for both The Project and Industrial Prototype are either within the range of recent transactions or slightly above reported sales prices. For new construction in a desirable location, estimated prices represent a reasonable future value of the developments.

Images and details of Industrial Prototype are included in Appendix A.

4. Economic Impact

To effectively estimate the economic impact of the Project and the Industrial Prototype, AECOM developed 4 economic models for the two project options from construction and ongoing operations at full buildout and stable occupancy. Total impacts are the combined direct, indirect, and induced impacts created by the initial change in the economy. In general terms, the direct economic effects of the project begin as construction capital is expended, later evolving into economic activities that become a permanent part of the modeled economy (e.g. new business and new residents). The indirect economic effects follow a similar pattern evolving from construction-oriented spending patterns to establish business-to-business transactions that support the newly housed economic functions within the Site. Finally, the additional consumer spending from residents and the increased collective labor income pool are represented through induced effects. Construction impacts are modelled as one-time impacts. Impacts from operations, maintenance, business activity, workers incomes, and residents' expenditures (net of transfers) continue to occur (estimated on an annual basis).

Direct Impacts: Result from the short-term impact generated by contracting and construction and the ongoing operations of businesses and residents that occur at the Site. (Example: Sales from On-site Retail)

Indirect Impacts: Result from local businesses directly impacted by the construction and operations of the projects through the purchase of materials, supplies, goods or services from secondary firms off the Site. (Example: Sales of intermediary goods for the elaboration of final goods sold at On-site Retail)

Induced Impacts: Result from the consumption spending of employees that are directly or indirectly affected by the projects. This includes the household consumption of both workers and residents of the Project. (Example: Sales of household consumption items from employees of On-Site Retail)

AECOM applied a Multi-Regional Input Output (MRIO) model using IMPLAN data that includes detailed local spending multipliers and regional trade flow calculators for every zip code in Orange County. The model approximates the direct, indirect, and induced impacts on every industry sector in the county. This allows for a detailed estimation of the probable total economic impact of new economic inputs, such as employment in particular industry sectors or household spending, on the local economy.

IMPLAN estimates impacts on Employment, Labor Income, Value Added (Labor Income, Proprietor Income, Other Property Income, Taxes) and Output (Value Added, Intermediate Expenditures). Note that these figures are not representative of taxable sales or taxes accrued to the City of Santa Ana, and their elaboration represent an approximation of impacts on a large geographical area**.** Table 17 **-** Table 20 show results.

Table 17: Project Construction Economic Impacts

Estimated Economic Impact of the Project Construction				
City of Santa Ana				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	2,414	$200,000,000	$268,000,000	$488,000,000
Indirect	65	$3,600,000	$5,500,000	$9,000,000
Induced	12	$600,000	$1,200,000	$2,000,000
Total	2,491	$204,000,000	$275,000,000	$498,000,000
Rest of Orange County				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	N/A	N/A	N/A	N/A
Indirect	956	$56,000,000	$88,000,000	$137,000,000
Induced	1,007	$55,000,000	$102,000,000	$160,000,000
Total	1,963	$111,000,000	$190,000,000	$297,000,000
Total Countywide	4,454	$315,000,000	$465,000,000	$795,000,000

Note: Numbers are rounded and may not sum
Source: IMPLAN, AECOM

During the Construction phase of the Project, IMPLAN estimates that the direct, indirect, and induced impacts of Project construction would support 4,454 jobs and generate over $795 million of total economic output for Orange County, with 2,491 jobs and over $498 million in economic output occurring within the City of Santa Ana.

Employment and output estimates for construction offer insight into the cumulative economic impacts of construction during the construction phase. For the construction phase, employment represents Full Time Equivalencies (FTE), while for the operations phase, employment includes all wage and salary employees, as well as proprietors. (This is the same methodology used by the BEA and BLS[3].) Thus, construction impacts are one-time impacts, while ongoing operations impacts can be interpreted as recurring annual impacts.

Table 18: Industrial Prototype Construction Economic Impacts

Estimated Economic Impact of Industrial Prototype Construction				
City of Santa Ana				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	501	$39,230,000	$49,600,000	$75,000,000
Indirect	3	$270,000	$450,000	$706,000
Induced	1	$60,000	$118,000	$185,000
Total	506	$39,560,000	$50,100,000	$76,000,000
Rest of Orange County				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	N/A	N/A	N/A	N/A
Indirect	49	$3,900,000	$6,500,000	$10,000,000
Induced	166	$9,160,000	$16,900,000	$26,470,000
Total	216	$13,100,000	$23,4000,000	$36,500,000
Total Countywide	722	$52,600,000	$73,500,000	$112,500,000

Note: Numbers are rounded and may not sum
Source: IMPLAN, AECOM

During the Construction phase of the Industrial Prototype, IMPLAN estimates that the direct, indirect, and induced impacts of construction would support 722 jobs and generate over $112 million of total economic output for Orange County, with 506 jobs and over $75 million in economic output occurring within the City of Santa Ana.

The economic output from the Construction phases would occur as a one-time impact and does not represent the generation of operational long-term income or employment.

[3] Bureau of Labor Statistics employment definitions: https://www.bls.gov/cps/lfcharacteristics.htm#emp

Table 19: Project Operations Economic Impact

Estimated Economic Impact of the Project Operations				
City of Santa Ana				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	304	$19,500,000	$32,300,000	$50,600,000
Indirect	7	$472,000	$809,000	$1,230,000
Induced	38	$2,000,000	$3,900,000	$6,100,000
Total	349	$21,940,000	$36,300,000	$57,850,000
Remainder of Orange County				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	N/A	N/A	N/A	N/A
Indirect	99	$6,940,000	$13,000,000	$19,400,000
Induced	787	$44,000,000	$80,840,000	$127,600,000
Total	886	$51,000,000	$94,000,000	$147,000,000
Total Countywide	1,235	$73,000,000	$130,000,000	$204,800,000

Note: Numbers are rounded and may not sum
Source: IMPLAN, BLS, California DOF, AECOM

At buildout and stable occupancy of the Project, IMPLAN estimates that the direct, indirect, and induced impacts of Project operations would annually support approximately 1,235 jobs and generate over $207 million of total economic output for Orange County, with 349 jobs and over $57 million in economic output occurring within the City of Santa Ana.

AECOM assumed retail operations at buildout would include a mix of restaurant, clothing, electronics, general goods, and personal care services. Beyond retail operations, the major source of induced employment and economic output is the household consumption of residents in the Project.

AECOM assumed the Project's 80,000 SF of retail could support approximately 304 employees at structural occupancy (250 SF/employee). The area's median household income of approximately $72,000 was assumed for 976 households (95% occupancy of the up to 1,150 units).

Table 20: Industrial Prototype Operations Economic Impact

Economic Impact of Industrial Prototype Operations				
City of Santa Ana				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	608	$65,100,000	$92,300,000	$149,000,000
Indirect	29	$2,000,000	$2,800,00	$4,180,000
Induced	2	$107,000	$200,000	$330,000
Total	638	$67,200,000	$95,300,000	$153,500,000
Remainder of Orange County				
Impact	**Employment**	**Labor Income**	**Value Added**	**Output**
Direct	N/A	N/A	N/A	N/A
Indirect	390	$27,700,000	$42,000,000	$62,830,000
Induced	383	$21,000,000	$39,000,000	$60,900,000
Total	773	$48,790,000	$81,000,000	$123,740,000
Total Countywide	1,411	$116,000,000	$176,200,000	$277,000,000

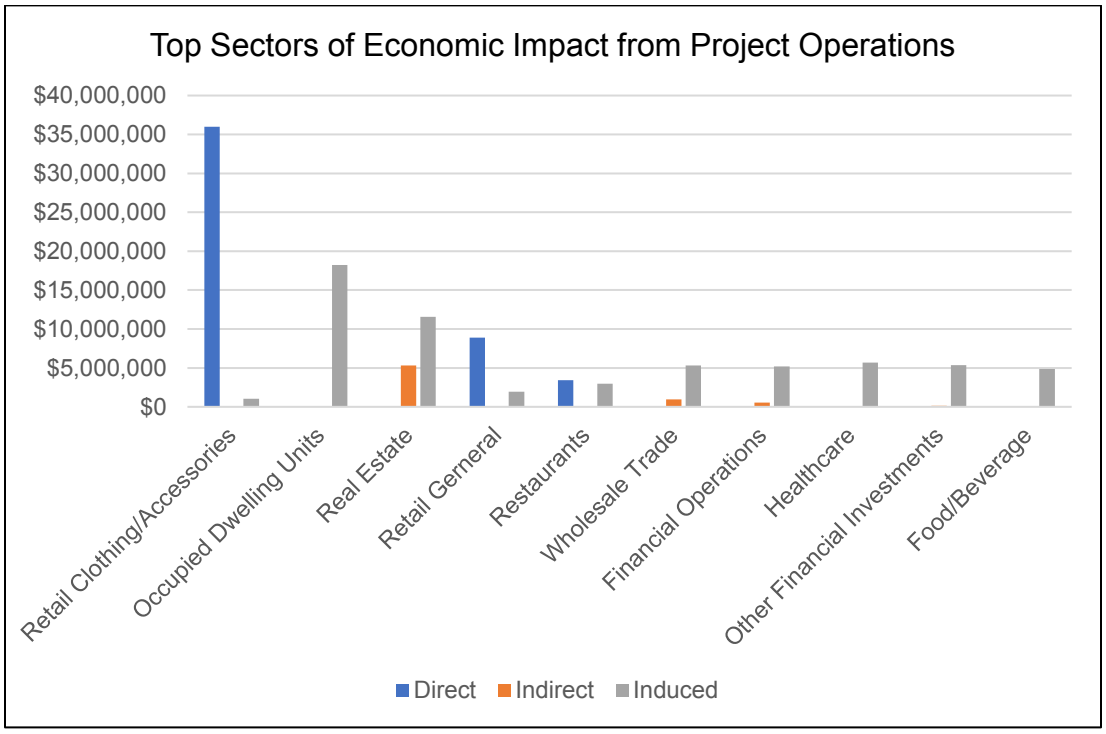
Note: Numbers are rounded and may not sum
Source: IMPLAN, BLS, California DOF, AECOM

For ongoing operations of the Industrial Prototype, IMPLAN estimates that the direct, indirect, and induced impacts of construction would annually support approximately 1,411 jobs and generate over $277 million of total economic output for Orange County, with 638 jobs and over $153 million in economic output occurring within the City of Santa Ana.

AECOM assumed industrial operations at buildout would include a mix of engineering, professional/technical services, research and development, and wholesale trade. AECOM assumed the Project's 320,000 SF of industrial space could support approximately 608 employees at structural occupancy (500 SF/employee).

The Industrial Prototype would be estimated to generate more employment and economic output than the equivalent factors for the Project. Sectors utilizing this space have significant potential to add value to a local economy beyond what is measurable in taxable sales on site.

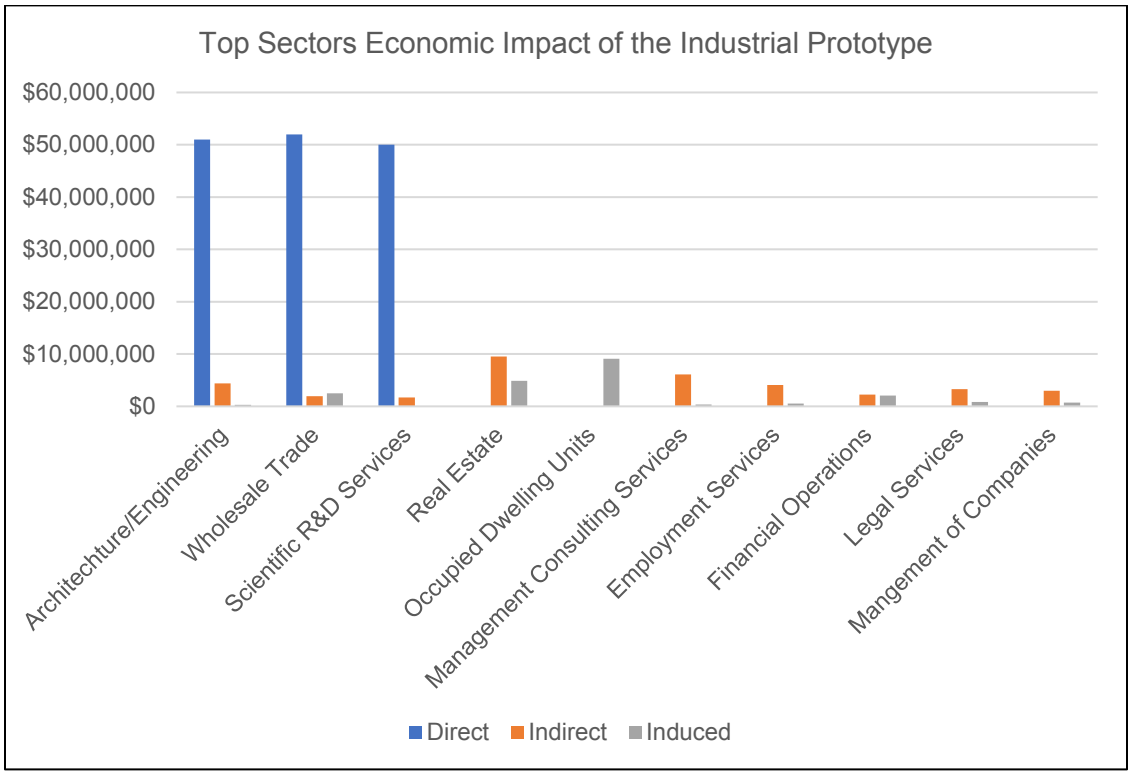
Figure 15: Top Sectors of Economic Impact - Project



Source: IMPLAN, BLS, California DOF, AECOM

The Industry Sectors directly impacted by the Project Operations are likely to be Retail of Clothing and Accessories, Household Consumption and Real Estate. Other indirect and induced impacts are likely to be seen in General Retail, Restaurants, and Wholesale Trade. Occupations and annual wages associated with these sectors include Supervisors of Retail Workers (annual wage of $44,000), Restaurant Cooks (annual wage of $30,610) and Non-manufacturing Wholesale Sales Reps (annual average wage of $68,700)

Figure 16: Top Sectors of Economic Impact - Industrial Prototype



Source: IMPLAN, BLS, California DOF, AECOM

The Industry Sectors directly impacted by the Industrial Prototype operations are likely to be Architecture/Engineering, Wholesale trade and Scientific Research and Development. Other indirect and induced impacts are likely to been seen in Real Estate, Household Consumption (Occupied Dwelling Units) and Management Consulting services. Table 4.5 shows select occupations typically associated with these industry sectors, along with their location quotients and mean annual wages.

Location quotients measure an occupation's concentration in an area relative to the occupation's share of national employment. A location quotient of 1.0 indicates the area has the same ratio of an occupation's share of employment as the nation, while numbers greater than 1.0 indicate regional specialization. Orange County has high concentrations of engineering and research occupations relative to the nation as a whole. Some mix of these occupations are probable candidates to occupy the space of the Industrial Prototype.

Table 21: Industrial Prototype Occupations

Orange County Industrial Prototype Associated Occupations Wage and Quotient		
Occupation	**Location Quotient***	**Annual Wage***
Biomedical Engineers	2.57	$90,250
Aerospace Engineers	2.38	$121,640
Electro-Mechanical Technicians	2.33	$55,810
Sales Reps, Wholesale and Manufacturing	2.17	$68,760
Property, Real Estate Managers	1.78	$85,470
Transportation Distribution Managers	1.04	$107,640
Light Truck or Delivery Services Drivers	0.93	$36,480

**BLS data from Anaheim-Santa Ana-Irvine 2017*
Note: Numbers are rounded and may not sum
Source: BLS, AECOM

5. Fiscal Impact

AECOM performed a fiscal assessment to estimate the annual net fiscal impacts on the City of Santa Ana General Fund of the two project alternatives at the Site. Estimated expenditures for services administered by the City of Santa Ana were calculated on a per service population[4] basis for residents and workers at the Site. AECOM estimated revenues to the City of Santa Ana on a reasonable estimate of the property taxes, sales taxes from businesses and employees, business permits, licenses and inspections, franchise fees, fines and forfeitures, and intergovernmental transfers. Detailed tables of Expenditures and Revenues are shown in **Appendix A.**

Table 22: Fiscal Impacts - Project

Fiscal Impact of the Project	
City of Santa Ana General Fund Annual Net Fiscal Impact from Project	
Cost/Revenue Description	Estimated Value
Estimated Total Costs to the City General Fund	**$1,511,000**
Sources of Revenue	
Property Tax	$922,000
Property Tax In Lieu of VLF	$224,000
Property Transfer Tax	$26,000
Sales Tax	$1,032,000
Other Revenue	$341,000
Total Estimated Revenue from Buildout	**$2,545,000**
Estimated Net Fiscal Surplus from Buildout	**$1,034,000**
Note: Numbers are rounded and may not sum *Source: Orange County Treasurer-Tax Collector, City of Santa Ana, California Department of Finance, Costar, AECOM*	

Table 23: Fiscal Impacts - Industrial Prototype

Fiscal Impact of the Industrial Prototype	
City of Santa Ana General Fund Annual Net Fiscal Impact from Project	
Cost/Revenue Description	Estimated Value
Estimated Total Costs to the City General Fund	**$185,000**
Sources of Revenue	
Property Tax	$140,000
Property Tax In Lieu of VLF	$0
Property Transfer Tax	$4,000
Sales Tax	$524,000
Other Revenue	$42,000
Total Estimated Revenue from Buildout	**$710,000**
Estimated Net Fiscal Surplus from Buildout	**$525,000**
Note: Numbers are rounded and may not sum *Source: Orange County Treasurer-Tax Collector, City of Santa Ana, California Department of Finance, Costar, AECOM*	

[4] Service population represents all estimated residents from the Project and a percentage allocation of workers based on US Census LEHD data of where employees work and live in the Focus Area

The estimated City General Fund expenditures for providing services to the Project are approximately $1511,000 and the estimated revenues are approximately $2,545,000, resulting in a net fiscal surplus of approximately $1,034,000 at full buildout. The pro-rata expenditures for the incremental service population applied to both the Project and Industrial Prototype are show in Table 5.3

The estimated City expenditures for providing services to the Industrial Prototype are approximately $185,000 and the estimated revenues are approximately $710,000 resulting in a net fiscal surplus of approximately $525,000 at full buildout. Tables 5.3 and 5.4 show the breakdown of expenditures by department and likely costs to the City of the incremental service population from the Project and Industrial Prototype.

Table 24: Fiscal Expenditures - Project

Project - Calculated Per Service Population Costs to General Fund				
Department	**City of Santa Ana Budget**	**City Cost per Service Population**	**Burden of Cost for New Service Population**	
Police	$131,600,000	$312.81	100%	$312.81
Fire	$45,600,000	$108.39	100%	$108.39
Planning and Building	$13,200,000	$31.38	60%	$18.83
Finance and Management Services	$9,700,000	$23.06	60%	$13.83
City Manager's Office	$2,200,000	$5.23	40%	$2.09
City Attorney's Office	$3,200,000	$7.61	40%	$3.04
Clerk of the Council's Office	$1,700,000	$4.04	40%	$1.62
Public Works Agency	$13,200,000	$31.38	100%	$31.38
Community Development Agency	$3,300,000	$7.84	60%	$4.71
Human Resources	$2,500,000	$5.94	80%	$4.75
Parks, Recreation, Community Services	$21,400,000	$50.87	100%	$50.87
Bower's Museum	$1,500,000	$3.57	100%	$3.57
Library	$5,400,000	$12.84	100%	$12.84
Civic Center	$1,200,000	$2.85	100%	$2.85
Strategic Plan	$2,500,000	$5.94	60%	$3.57
Transfer to Project Funds	$9,000,000	$21.39	100%	$21.39
Total Cannabis Program	$6,200,000	$14.74	100%	$14.74
Total Budgeted Expenditures	$273,400,000			
Total Pro Rata Cost per Service Population				**$610**
Total Incremental Service Population				**2,472**
Total Cost of New Service to Incremental Service Population				**$1,511,000**

Note: Numbers are rounded and may not sum
Source: Santa Ana FY2019-2020 Adopted Budget; AECOM

Table 25: Fiscal Expenditures - Industrial Prototype

Table 5.4: Industrial Prototype - Calculated Per Service Population Costs to General Fund				
Department	**City of Santa Ana Budget**	**City Cost per Service Population**	**Burden of Cost for New Service Population**	
Police	$131,600,000	$312.81	100%	$312.81
Fire	$45,600,000	$108.39	100%	$108.39
Planning and Building	$13,200,000	$31.38	60%	$18.83
Finance and Management Services	$9,700,000	$23.06	60%	$13.83
City Manager's Office	$2,200,000	$5.23	40%	$2.09
City Attorney's Office	$3,200,000	$7.61	40%	$3.04
Clerk of the Council's Office	$1,700,000	$4.04	40%	$1.62
Public Works Agency	$13,200,000	$31.38	100%	$31.38
Community Development Agency	$3,300,000	$7.84	60%	$4.71
Human Resources	$2,500,000	$5.94	80%	$4.75
Parks, Recreation, Community Services	$21,400,000	$50.87	100%	$50.87
Bower's Museum	$1,500,000	$3.57	100%	$3.57
Library	$5,400,000	$12.84	100%	$12.84
Civic Center	$1,200,000	$2.85	100%	$2.85
Strategic Plan	$2,500,000	$5.94	60%	$3.57
Transfer to Project Funds	$9,000,000	$21.39	100%	$21.39
Total Cannabis Program	$6,200,000	$14.74	100%	$14.74
Total Budgeted Expenditures	$273,400,000			
Total Pro Rata Cost per Service Population				**$610**
Total Incremental Service Population				**305**
Total Cost of New Service to Incremental Population				**$185,000**

Note: Numbers are rounded and may not sum
Source: Santa Ana FY2019-2020 Adopted Budget; AECOM

While it is estimated the Industrial Prototype requires fewer services from the City, the Project would likely generate a more significant increase in property taxes through assessed improvements and induce greater sales taxes from increased households in the City.

The Project could lead to capital deficits for Focus Area because of higher densities of households and businesses concentrated in and around the current institutions and infrastructure[5]. A further analysis of the current capacity and distribution of public facilities should be conducted to understand the impact of the incremental growth in service population on facilities such as schools, police/fire stations, or other capital investments associated with the provision of public services. The City will consider commissioning an infrastructure needs assessment after the environmental assessment has been completed.

Assumptions on Revenues:

Property Taxes: Property taxes for both the Project and Industrial Prototype were assessed on the total construction costs of the improvements discounted by 5% to account for the difference between market value and assessed value. The corresponding Tax Rate Area (TRA) allocates 19.4% of the tax assessment to the City's General Fund. Detailed tables are shown in **Appendix A.**

[5] For the purposes of this study, AECOM assumed all expenditures to the City would be based on a pro-rata allocation to the service population, which is the industry-standard for anticipating long-term citywide fiscal impacts. Developers are required to pay development fees designed to offset immediate capital costs to the City. AECOM did not work with City staff or public service agents to analyze the thresholds required for new fixed costs to service provision, such as an additional police or fire station.

Sales Taxes: Sales taxes for both developments come from both taxable sales from the proposed retail and industrial land uses and spending from future residents and employees. For the Project, BLS data on household consumption expenditures for the area were discounted to account for the likely capture to Santa Ana of households on the periphery of the City with considerable retail options in adjacent districts of neighboring cities. A capture rate of 30% was applied to account for this spending and the capture of on-site retail of the Project described above in the Retail Demand section and the potential transfer of sales tax from other retail establishments in the City. Workday spending for on-site employees for both developments also assumed these factors in their discount rates. Detailed tables are shown in the **Appendix** A.

Other Government Revenues: Other sources of revenue are expected to increase as the result of the annexation of the Study Area, including business permits, licenses and inspections, franchise fees, fines and forfeitures and intergovernmental transfers. Detailed tables are shown in the **Appendix A**.

Appendix A Document copies

Development Feasibility Analysis

The Project RLV Model

PROGRAM						
Site Area	14.7	acres				
Height	6	stories				
Density	75	DU/AC	1.88	FAR		
Built Area	1,204,209	GBA sq.ft.	79%	efficiency	949,735	NLA sq.ft.
Residential	1,115,320	GBA sq.ft.	80%	efficiency	869,735	NLA sq.ft.
Retail	88,889	GBA sq.ft.	90%	efficiency	80,000	NLA sq.ft.
Club/Fitness/Rec	28,151					
Room Mix						
Studio	228	units	657	NLA sq.ft./unit		
One-Bedroom	574	units	713	NLA sq.ft./unit		
Two-Bedroom	283	units	1,031	NLA sq.ft./unit		
Three-Bedroom	15	units	1,242	NLA sq.ft./unit		
Total	1,100		791			
Parking						
Residential (Resident)	1,100	1.7 stall/unit	1,857	stalls		
Residential (Guest)	1,100	0.0 stall/unit	0	stalls		
Total Residential		1.7 stall/unit	1,857	stalls		
Retail	5.0	/1,000 NLAsq.ft.	400	stalls		
			2,147	stalls		
Parking Type						
Surface			84	stalls		
Structured			2,059	stalls		

REVENUE						
Residential						
Studio	$3.30	NLA/sq.ft.	$2,169	/unit/month	228 units	$5,935,382
One-Bedroom	$3.03	NLA/sq.ft.	$2,162	/unit/month	574 units	$14,889,593
Two-Bedroom	$2.75	NLA/sq.ft.	$2,835	/unit/month	283 units	$9,626,669
Three-Bedroom	$2.60	NLA/sq.ft.	$3,229	/unit/month	15 units	$581,256
Gross Potential Revenue	$2.97	NLA/sq.ft.			1100 units	$31,032,900
(less) Vacancy	5.00%					($1,551,645)
(less) Operating Expenses	30.00%					($9,309,870)
(less) Capital Reserves	2.00%					($620,658)
Residential NOI						**$19,550,727**
Capitalized Value of NOI*	4.00%	cap rate				$488,768,176
(less) Cost of Sale	2.00%					($9,775,364)
Net Residential Value						**$478,992,813**
Retail						
NNN Rental Revenue	$2.50	NLA/sq.ft.				$2,400,000
(less) leasing fee	4.0%	NNN Rent				($96,000)
(less) Vacancy	5.00%					($115,200)
(less) Non-reimb. Exp.	5.00%					($115,200)
Retail NOI						**$2,073,600**
Capitalized Value of NOI*	6.50%	cap rate				$31,901,538
(less) Cost of Sale	3.00%					($957,046)
Net Retail Value						**$30,944,492**
TOTAL VALUE	4.2%	implied cap rate				**$509,937,305**

The Project RLV Model (continued)				
DEVELOPMENT COSTS				
Direct Costs				
Site Work	$15	/sq.ft.	$9,598,446	
Parking				
Surface	$3,500	/stall	$294,000	
Structured	$25,000	/stall	$51,475,000	
Subtotal			$51,769,000	
Residential				
Site	93%	pro rata based on GBA	$8,889,935	
Parking	82%	pro rata based on stalls	$42,594,166	
Construction	$180	/GBA sq.ft.	$200,757,642	
Subtotal				$252,241,743
Retail				
Site	7%	pro rata based on GBA	$708,511	
Parking	18%	pro rata based on stalls	$9,174,834	
Construction	$110	/GBA sq.ft.	$9,777,778	
TI/TA	$40	/NLA sq.ft.	$3,200,000	
Subtotal				$22,861,122
Total Direct Costs				**$275,102,866**
Indirect Costs				
LEED Certification	3.0%		$8,253,086	
Permits and Fees	8%	/GBA sq.ft.	$22,008,229	
Legal	1.0%	of Direct Costs	$2,751,029	
Insurance and Warranty	2.0%	of Direct Costs	$5,502,057	
Architecture and Engineering	7.0%	of Direct Costs	$19,257,201	
Developer Fee	5.0%	of Direct Costs	$13,755,143	
G&A	2.5%	of Direct Costs	$6,877,572	
Subtotal Indirect Costs			$78,404,317	
Residential	92%	pro rata based on DC		$71,888,897
Retail	8%	pro rata based on DC		$6,515,420
Financing***	1.5	year(s) construction period	$14,228,664	
Residential	92%	pro rata based on DC		$13,046,258
Retail	8%	pro rata based on DC		$1,182,406
Contingency	5.0%		$18,386,792	
Residential	92%	pro rata based on DC		$16,858,845
Retail	8%	pro rata based on DC		$1,527,947
Profit as a % of Total Costs (	15%		$57,918,396	
Residential	92%	pro rata based on DC		$53,105,361
Retail	8%	pro rata based on DC		$4,813,034
Total Indirect Costs				**$168,938,169**
TOTAL COSTS (Direct + Indirect)				
Residential				$407,141,105
Retail				$36,899,930
				$444,041,035
RESIDUAL LAND VALUE				
Residential				$71,851,708
Retail				($5,955,438)
Net RLV				**$65,896,270**
Per Acre				$4,485,791
Per Land Square Foot				$103
Per Gross Building Square Foot				$55
Per Net Building Square Foot				$69
RLV as % of Total Costs				15%

*CBRE Retail Cap Rate Orange County H1 2019 for Class A: 4-4.5
**CBRE Retail Cap Rate Orange County H1 2019 for Class B: 6.25-6.75
***Construction financing assumptions:60% LTC, 4.5% interest, 2%fee, 50% avg. balance

Industiral Prototype RLV Model

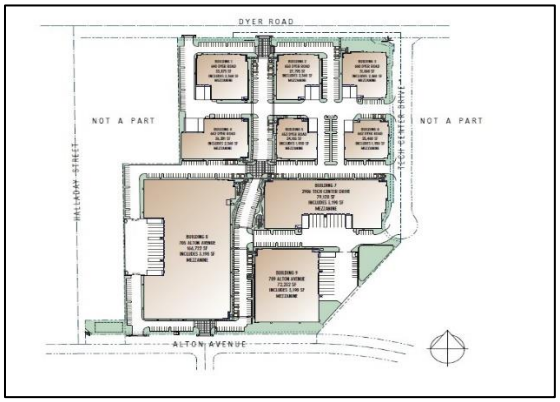
PROGRAM						
Site Area		14.7	acres			
Height		1	stories			
Density	N/A		DU/AC	0.45	FAR	
Built Area		303,109	GBA sq.ft.	0%	efficiency	NLA sq.ft.
Industrial		303,109	GBA sq.ft.	95%	efficiency	287,953 NLA sq.ft.
Parking						
Industrial		2.0	/1,000 NLA sq.ft.	576	stalls	
					stalls	
Parking Type						
Surface				576	stalls	
REVENUE						
Industrial						
NNN Rental Revenue		$0.95	NLA/sq.ft.			$3,282,669
(less) leasing fee		3.0%	NNN Rent			($98,480)
(less) Vacancy		5.00%				($159,209)
(less) Non-reimb. Exp.		5.00%				($159,209)
Indutrail NOI						**$2,865,770**
Capitalized Value of NOI*		4.25%	cap rate			$67,429,874
(less) Cost of Sale		3.00%				($2,022,896)
Net Indutrial Value						**$65,406,977**
TOTAL VALUE		4.4%	implied cap rate			**$65,406,977**
DEVELOPMENT COSTS						
Direct Costs						
Site Work		$7	/sq.ft.		$4,479,275	
Parking						
Surface		$3,500	/stall		$2,016,000	
Industrial						
Site		100%	pro rata based on GBA		$4,479,275	
Parking		100%	pro rata based on stalls		$2,016,000	
Construction		$65	/GBA sq.ft.		$19,702,073	
TI/TA		$15	/NLA sq.ft.		$4,319,301	
Subtotal						$30,516,649
Total Direct Costs						**$30,516,649**
Indirect Costs						
LEED Certification		3.0%			$915,499	
Permits and Fees		6%	of Direct Costs		$1,830,999	
Legal		1.0%	of Direct Costs		$305,166	
Insurance and Warranty		2.0%	of Direct Costs		$610,333	
Architecture and Engineering		7.0%	of Direct Costs		$2,136,165	
Developer Fee		5.0%	of Direct Costs		$1,525,832	
G&A		2.5%	of Direct Costs		$762,916	
Subtotal Indirect Costs					$8,086,912	
Industrial		100%	pro rata based on DC			$8,086,912
Financing**		1.5	year(s) construction period		$1,553,793	
Industrial		100%	pro rata based on DC			$1,553,793
Contingency		5.0%			$2,007,868	
Industrial		100%	pro rata based on DC			$2,007,868
Profit as a % of Total Costs (Befc		15%			$6,324,783	
Industrial		100%	pro rata based on DC			$6,324,783
Total Indirect Costs					**$17,973,356**	**$17,973,356**
TOTAL COSTS (Direct + Indirect)						
Industrial						$48,490,005
						$48,490,005
RESIDUAL LAND VALUE						
Industrial						$65,406,977
Retail						0
Net RLV						**$16,916,972**
Per Acre						$1,151,598
Per Land Square Foot						$26
Per Gross Building Square Foot						$56
Per Net Building Square Foot						$58.75
RLV as % of Total Costs						35%

* CBRE Industrial Cap Rate Orange County H1 2019 for Class A: 3.75-4.25

**Construction financing assumptions:60% LTC, 4.5% interest, 2%fee, 50% avg. balance

Industrial Prototype Relevant Comparisons

Address:	11488 Slater Ave Fountain Valley	721 S Van Buren St, Placentia
RBA:	134,000 SF	69,882 SF
$/SF NNN:	$9-11/SF	$11-13/SF
Year Built:	2016	2019



Address:	2906 Tech Center Dr Santa Ana
RBA:	509,470 SF
$/SF NNN:	$12-16/SF
Year Built:	Under Construction

Fiscal Impact Tables

The Project - Estimated Property Tax Revenues at Stabilized Occupancy	
Real Estate Sale Assumptions	Estimated Total Assessed Value
Total Improved Value*	**$475,000,000**
Property Transfer Tax Revenue Assumptions	
Total Improved Value	$475,000,000
Property Transfer Tax[1] ($0.275 per $500)	**$261,000**
Annual Property Transfer Tax (5% of total)	**$26,100**
Property Tax Revenue Allocation Assumptions	
Total Improved Value	$475,000,000
1% Property Tax Allocation	$4,750,000
% of Property Tax Distributed to City of Santa Ana General Fund**	19.4%
Net Increase in Property Tax Revenue	**$922,000**
% of City of Santa Ana in Lieu of Vehicle License Fee (VLF)***	4.7%
Net Increase of In Lieu of VLF to the City of Santa Ana	**$223,887**
Total Estimated Annual Property Tax Allocation to the City of Santa Ana	**$1,145,887**
Annual Combined Property Transfer Tax and Property Tax Allocation to the City of Santa Ana	**$1,171,987**
*Discounted 5% to account for Assessed versus Market Value	
**Tax Rate Area 11-019	
***Tax ratio is based on per capita estimated 2018-18 Santa Ana Budget Property Tax In Lieu of VLF revenues	
Source: Orange County Tax Assessor, Costar, BLS, California DOF, AECOM	

Industrial Prototype - Estimated Property Tax Revenues at Stabilized Occupancy	
Real Estate Sale Assumptions	Estimated Total Assessed Value
Total Improved Value*	**$72,188,313**
Property Transfer Tax Revenue Assumptions	
Total Improved Value	$72,188,313
Property Transfer Tax ($0.275 per $500)	**$40,000**
Annual Property Transfer Tax (5% of total)	**$4,000**
Property Tax Revenue Allocation Assumptions	
Total Improved Value	$72,188,313
1% Property Tax Allocation	$722,000
% of Property Tax Distributed to City of Santa Ana General Fund**	19.40%
Net Increase in Property Tax Revenue	**$140,000**
% of City of Santa Ana in Lieu of Vehicle License Fee (VLF)	0.0%
Net Increase of In Lieu of VLF to the City of Santa Ana	**$0**
Total Estimated Annual Property Tax Allocation to the City of Santa Ana	**$140,000**
Annual Combined Property Transfer Tax and Property Tax Allocation to the City of Santa Ana	**$144,000**

*Discounted 5% to account for Assessed versus Market Value

**Tax Rate Area 11-019

Source: Orange County Tax Assessor, Costar, BLS, California DOF, AECOM

The Project - Estimated Sales Tax Revenue	
Description	Value
Households*	1,045
Estimated City of Santa Ana per capita Sales	$20,910.00
Capture Rate	30%
Taxable Sales in Santa Ana	$6,555,285
Sales Tax Rate	2.50%
Sales Tax generated by New Residents	**$163,882**
Annexation Employees**	260
Estimated Annual Taxable Workday Spending***	$6,700
Capture to Santa Ana	30%
Total Estimated Annual Taxable Sales from On-site Employees	$522,070
Local Sales Tax (excluding California State sales tax and voter additions)	2.50%
Estimated Annual Sales Tax Revenue by On-site Employees	**$13,052**
Annual Estimated Sales Tax Revenue by Residents and On-Site Employees	$176,934
Total Annual Sales from Businesses	**$855,000**
Total Sales Tax	**$1,031,934**

*95% Structural Occupancy

**Discounted for % of Workers living in Santa Ana

**ICSC Estimates for average worker with comparable retail offerings

Source: California BOE, Orange County Tax Assessor, LEHD, ICSC, AECOM

Industrial Prototype - Estimated Sales Tax Revenue	
Description	Value
Annexation Employees*	519
Annual Taxable Workday Spending**	$6,700
Capture to Santa Ana	35%
Total Estimated Annual Taxable Sales from On-site Employees	$1,218,164
Local Sales Tax (excluding California State sales tax and voter additions)	2.50%
Estimated Annual Sales Tax Revenue by On-site Employees	**$30,454**
Total Annual Sales from Businesses	**$493,920**
Total Sales Tax	**$524,374**

*Discounted for % of Workers living in Santa Ana

**ICSC Estimates for average worker with comparable retail offerings

Source: California BOE, Orange County Tax Assessor, LEHD, ICSC, AECOM

The Project - Estimated Other General Fund Revenue		
Other General Fund Revenue Sources*	Pro Rata Share**	Estimated Revenue***
Business Licenses	$35.48	$87,696
Fees, Permits, and Other Charges	$66.38	$164,078
Fines, Forfeitures and Penalties	$18.03	$44,576
Intergovernmental	$18.08	$44,700
Estimated Total of other Revenue	**$137.97**	**$341,050**

*General Fund revenue sources identified here are believed to have a reasonable relationship with population change.

**Pro rata shares calculated using City of Santa Ana 2019-2020 Adopted Budget and estimated 2019 population (California Department of Finance).

***Estimated Revenue = Pro Rata Share x Estimated Development Service Population

Source: City of Santa Ana California Department of Finance, AECOM

Industrial Prototype - Estimated Other General Fund Revenue		
Other General Fund Revenue Sources*	Pro Rata Share**	Estimated Revenue***
Business Licenses	$35.48	$10,785
Fees, Permits, and Other Charges	$66.38	$20,179
Fines, Forfeitures and Penalties	$18.03	$5,482
Intergovernmental	$18.08	$5,497
Estimated Total of other Revenue	**$137.97**	**$41,943**

*General Fund revenue sources identified here are believed to have a reasonable relationship with population change.

**Pro rata shares calculated using City of Santa Ana 2019-2020 Adopted Budget and estimated 2019 population (California Department of Finance).

***Estimated Revenue = Pro Rata Share x Estimated Development Service Population

Source: City of Santa Ana California Department of Finance, AECOM