



## Technical Memorandum

To: Paul Loubet, First Industrial Realty Trust

From: Eliza Laws, Senior Environmental Analyst  
Monica Tobias, Associate Environmental Analyst

Date: July 18, 2023

Re: Air Quality/Greenhouse Gas Analysis for the First Industrial Logistics at Sinclair Street Project (DPR 22-00027), City of Perris

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The following air quality assessment was prepared to evaluate whether the expected criteria air pollutant emissions generated as a result of construction and operation of the proposed Project would cause exceedances of the South Coast Air Quality Management District's (SCAQMD) thresholds of significance for air quality in the Project area. The greenhouse gas (GHG) assessment was prepared to evaluate whether the expected GHG emissions generated as a result of construction and operation of the proposed Project would exceed the SCAQMD draft screening significance thresholds. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 *et seq.*). The methodology follows the *CEQA Air Quality Handbook* prepared by the SCAQMD for quantification of emissions and evaluation of potential impacts to air resources. As recommended by SCAQMD staff, the **California Emissions Estimator Model**<sup>®</sup> version 2022.1 (CalEEMod) was used to quantify Project-related emissions.

The Project Applicant proposes development of an approximate 427,224-square-foot, non-refrigerated warehouse building that includes 4,000 square feet of office and 4,000 square feet of mezzanine space, on an approximately 20.2-net-acre site at the terminus of Sinclair Street, west of North Perris Boulevard between Morgan Street and West Rider Street, in the City of Perris, California. The Project site is located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. The PVCCSP was adopted by the City of Perris in 2012. As part of the Project, the two existing buildings totaling 206,100 square feet, will be demolished. The Project's potable water lines will connect to existing pipelines in Sinclair Street. The Project's sewer lines will connect to existing pipelines within the southwest corner of the Project site. The Project's on-site storm drain lines will connect to the City's existing arch reinforced concrete pipe (RCP), located near the midsection of the easterly Project boundary. Off-site improvements to Sinclair Street are proposed east of Perris Boulevard, between Perris Boulevard and Johnson Street, and will consist of road widening within existing right of way that includes the grind and overlay of existing pavement to join proposed new pavement. The total off-site disturbance area is approximately 0.37 acre.

## ▪ Regional Significance Thresholds

The thresholds of significance contained in the *SCAQMD CEQA Air Quality Handbook*<sup>1</sup> (SCAQMD 1993) and posted in a supplemental table as mass daily thresholds on SCAQMD’s website<sup>2</sup> are considered regional thresholds and are shown in **Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds**, below. These regional thresholds were developed based on the SCAQMD’s treatment of a major stationary source.

**Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds**

Emission Threshold	Units	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operation	lbs/day	55	55	550	150	150	55

Air quality impacts can be described in a short- and long-term perspective. Short-term impacts occur during site grading and Project construction and consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Long-term air quality impacts occur once the Project is in operation.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 or more acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of this Project’s disturbance area (20.53 acres), a Fugitive Dust Control Plan or a Large Operation Notification Form would not be required.

### Short-Term Analysis

Short-term emissions from Project construction were evaluated using the CalEEMod version 2022.1 program. The estimated construction period for the proposed Project is approximately 11 months, beginning no sooner than March 2024. The default parameters within CalEEMod were used and these default values reflect a worst-case scenario, which means that Project emissions are expected to be equal to or less than the estimated emissions. In addition to the default values used, assumptions relevant to model inputs for short-term construction emission estimates used are:

- Construction is anticipated to begin no sooner than March 2024 with demolition and end with architectural coatings (painting):

Construction Activity	Start Date	End Date	Total Working Days
Demolition	March 1, 2024	March 29, 2024	20 Days
Grading	March 30, 2024	May 10, 2024	30 Days
Building Construction	May 11, 2024	January 25, 2025	185 Days
Paving	December 29, 2024	January 25, 2025	20 Days
Architectural Coatings	December 29, 2024	January 25, 2025	20 Days

<sup>1</sup> South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)

<sup>2</sup> [Air Quality Analysis Handbook \(aqmd.gov\)](https://www.aqmd.gov/air-quality-analysis-handbook)

- The off-road equipment to be used for each activity is shown below and represents program defaults, updated by Project-specific information provided by the Applicant. The engine tier for each piece of equipment is calculated using CalEEMod defaults for the statewide fleet average emissions factors. Each piece of equipment is assumed to operate 8 hours per day:

Construction Activity	Off-Road Equipment	Unit Amount
Demolition	Excavators	2
	Rubber Tired Loader	1
	Crushing Processing Equipment	1
	Off-Highway Trucks <sup>1</sup>	1
Grading	Excavators	2
	Graders	1
	Rubber Tired Dozers	1
	Scraper	2
	Tractors/Loaders/Backhoes	2
	Off-Highway Trucks <sup>1</sup>	1
Building Construction	Crane	1
	Forklifts	3
	Generator Set	1
	Tractor/Loader/Backhoe	3
	Welder	1
Paving	Paver	2
	Paving Equipment	2
	Rollers	2
	Off-Highway Trucks <sup>1</sup>	1
Architectural Coatings	Air Compressors	1

<sup>1</sup> Off-Highway trucks used to represent water trucks, operating two hours per day.

- To evaluate Project compliance with SCAQMD Rule 403 for fugitive dust control, the analysis utilized the option of watering the Project site three times daily which achieves a control efficiency of 74 percent for PM-10 and PM-2.5 emissions.
- The existing industrial buildings, totaling 206,100 square feet, will be demolished.
- Vendor trips from concrete trucks utilized during building construction were based on CalEEMod defaults.
- The Project will require 89,100 cubic feet (CY) of soil import. Based on the CalEEMod default truck capacity of 16 cubic yards, approximately 371 one-way truck trips per day would occur during grading, or approximately 186 truckloads per day of soil would be delivered. The import site is currently unknown. Therefore, the CalEEMod default was utilized which assumes a hauling trip length of 20 miles per trip.
- Off-site infrastructure improvements will also be required. Sinclair Avenue, between Perris Boulevard and Johnson Avenue, will be widened to the south of the existing pavement within existing right-of-way. The off-site improvement area will disturb approximately 0.37 acre.
- The VOC content of interior and exterior architectural coatings were changed to 50 grams per liter, pursuant to SCAQMD Rule 1113.

The results of this analysis are summarized below.

**Table 2 – Unmitigated Estimated Maximum Daily Construction Emissions**

Activity	Peak Daily Emissions (lb/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM-10	PM-2.5
<b>SCAQMD Daily Construction Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
2024	<b>110.00</b>	<b>65.40</b>	<b>62.00</b>	<b>0.23</b>	<b>11.40</b>	<b>4.74</b>
2025	110.00	27.50	54.50	0.07	8.20	2.62
<b>Maximum<sup>1</sup></b>	<b>110.00</b>	<b>65.40</b>	<b>62.00</b>	<b>0.23</b>	<b>11.40</b>	<b>4.74</b>
<b>Exceeds Threshold?</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: <sup>1</sup> See the detailed model output report attached herewith. Numbers are the maximum of summer or winter emissions in a given year. Maximum emissions are shown in bold.

As shown in the table above, the emissions from construction of the Project are below the SCAQMD daily construction thresholds for all criteria pollutants, except VOC resulting from architectural coatings (painting). Please see the subheading “Recommended Mitigation Measures” for mitigation that reduces the Project’s construction emissions.

### Long-Term Analysis

Long-term emissions are evaluated at build-out of a project. The Project is assumed to be operational in 2025. Mobile source emissions refer to on-road motor vehicle emissions generated from the Project’s traffic and based on the *Focused Traffic Study, Sinclair Street Warehouse, DPR 22-00027*.<sup>3</sup> Default data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA) was used for non-truck trips. An average truck trip length of approximately 40 miles was assumed, which is recommended by the City and based on SCAQMD’s *Final Staff Report for proposed Rule 2305 and Rule 316*.<sup>4</sup> On-site service equipment (i.e., forklifts) are assumed to be electric and therefore do not have any direct emissions of criteria pollutants. Area source emissions from the Project include stationary combustion emissions of natural gas used for space and water heating (shown in a separate row as energy), yard and landscape maintenance, and an average building square footage to be repainted each year. CalEEMod computes area source emissions based upon default factors and land use assumptions. CalEEMod defaults also include the 2019 Title 24 energy efficiency standards. Separate emissions were computed for both the summer and winter and are shown in **Table 3** and **Table 4**, respectively.

<sup>3</sup> Albert A. Webb Associates, *Focused Traffic Study, Sinclair Street Warehouse, DPR 22-00027, June 12, 2023*.

<sup>4</sup> South Coast Air Quality Management District, *Board Meeting Agenda No. 27, May 7, 2021, Attachment I, Final Staff Report, Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305*. (Available at <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10>, accessed April 28, 2023.)

**Table 3 – Unmitigated Estimated Daily Project Operation Emissions (Summer)**

Source	Peak Daily Emissions (lb/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM-10	PM-2.5
<b>SCAQMD Daily Thresholds</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Area	16.10	0.32	38.40	0.00	0.05	0.07
Energy	0.12	2.19	1.84	0.01	0.17	0.17
Mobile	3.27	9.38	43.70	0.15	11.00	2.93
<b>Total</b>	<b>19.49</b>	<b>11.89</b>	<b>83.94</b>	<b>0.16</b>	<b>11.22</b>	<b>3.17</b>
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: See the detailed model output report attached herewith. Emissions reported as zero are rounded and not necessarily equal to zero.

**Table 4 – Unmitigated Estimated Daily Project Operation Emissions (Winter)**

Source	Peak Daily Emissions (lb/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM-10	PM-2.5
<b>SCAQMD Daily Thresholds</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Area	9.76	0.00	0.00	0.00	0.00	0.00
Energy	0.12	2.19	1.84	0.01	0.17	0.17
Mobile	3.07	9.92	35.90	0.14	11.00	2.93
<b>Total</b>	<b>12.95</b>	<b>12.11</b>	<b>37.74</b>	<b>0.15</b>	<b>11.17</b>	<b>3.10</b>
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: See the detailed model output report attached herewith. Emissions reported as zero are rounded and not necessarily equal to zero.

Evaluation of the data presented on the above tables indicates that criteria pollutant emissions from operation of this Project will not exceed the SCAQMD regional daily thresholds for any pollutant during summer or winter.

## ■ Localized Significance Threshold Analysis

### Background

As part of the SCAQMD’s environmental justice program, attention has been focused on localized effects of air quality. Staff at the SCAQMD has developed localized significance threshold (LST) methodology<sup>5</sup> that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short- and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Project site is located in SRA 24.

### Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Emissions associated with vendor and worker trips are mobile source emissions that occur off site. The emissions analyzed under the LST methodology are NO<sub>2</sub>, CO, PM-10, and PM-2.5. The SCAQMD has provided LST lookup tables<sup>6</sup> to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects five acres or smaller. Although the Project site is more than five acres, it is anticipated that a smaller area will be disturbed per day. The SCAQMD’s Fact Sheet for Applying CalEEMod to Localized Significance Thresholds is used to determine the maximum site acreage that is actively disturbed based on the construction equipment

<sup>5</sup> South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised July 2008. (Available at <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>, accessed April 28, 2023.)

<sup>6</sup> <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>

fleet and equipment hours as estimated in CalEEMod.<sup>7</sup> Based on this SCAQMD guidance and the Project’s equipment list during grading (above), Project construction will disturb approximately 4 acres per day.<sup>8</sup> To provide a conservative analysis, the two-acre LST was utilized to compare the on-site emissions estimated by CalEEMod.

The LST thresholds are estimated using the maximum daily disturbed area (in acres) and the distance of the Project to the nearest sensitive receptors (in meters). The closest sensitive receptor to the Project construction site is the existing New Creation Church southeast of the Project site along Business Park Drive, approximately 985 feet (300 meters) away. The closest receptor distances on the LST look-up tables are 200 and 500 meters. Therefore, a receptor distance of 200 meters (656 feet) was used to ensure a conservative analysis. The results are summarized below.

**Table 5 – Unmitigated LST Results for Daily Construction Emissions**

Pollutant	Peak Daily Emissions (lb/day)			
	NO <sub>x</sub>	CO	PM-10	PM-2.5
<b>LST for 2-acre site at 200 meters</b>	<b>379</b>	<b>5,136</b>	<b>75</b>	<b>23</b>
Demolition 2024	13.20	<b>58.90</b>	<b>7.67</b>	1.92
Grading 2024	<b>34.60</b>	30.50	3.89	<b>2.30</b>
Building Construction 2024	12.20	14.20	0.54	0.49
Building Construction 2025	11.30	14.10	0.47	0.43
Paving 2024	8.10	10.40	0.40	0.37
Paving 2025	7.73	10.30	0.36	0.33
Architectural Coatings 2024	1.21	1.53	0.04	0.04
Architectural Coatings 2025	1.18	1.52	0.04	0.03
<b>Maximum<sup>1</sup></b>	<b>34.60</b>	<b>58.90</b>	<b>7.67</b>	<b>2.30</b>
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: <sup>1</sup> Maximum emissions are the greater of either demolition or grading in 2024, or the sum of building construction, paving, and architectural coating in 2024, or the sum of building construction, paving, and architectural coating in 2025 since these activities overlap. Maximum emissions are shown in bold.

Emissions from construction of the Project will be below the LST established by SCAQMD for the Project.

### Long-Term Analysis

According to the LST methodology, LSTs only apply to the operational phase if a project includes stationary sources or attracts mobile sources that may spend long periods of time idling at the site, such as warehouse/transfer facilities. The Project includes a diesel-powered fire flow pump. Because the fire flow pump will only be used during fire emergencies and routine testing, emissions would be negligible. The Project applicant will be required to obtain an SCAQMD permit to install and operate the fire flow pump. The SCAQMD permitting process would ensure that the Project meets regulatory requirements through the application review process and by placing specific operating conditions on the permit such as operating hour limits. As such, no further analysis of the fire pump was prepared. Because the proposed Project will operate as a warehouse and has the potential to attract mobile sources that can reasonably be assumed to idle at the site, a long-term LST analysis was prepared for this Project. Although the Project exceeds five acres, per SCAQMD, the LST lookup tables can be used as a screening tool to determine if dispersion modeling would be necessary. Therefore, the Project’s on-site

<sup>7</sup> <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2>

emissions from CalEEMod and LST Look-Up Tables for the 5-acre site were utilized as a screening-level analysis.

CalEEMod version 2022.1 was utilized to estimate the Project’s total on-site emissions from operation, which include trucks traveling on the Project site. An on-site distance of 0.54 miles was conservatively assumed to be traveled for each one of the Project’s truck trips identified in the *Focused Traffic Study, Sinclair Street Warehouse, DPR 22-00027*. The output is attached to this memo and summarized below. Idling emissions from trucks at loading docks is not available in CalEEMod; therefore, PM-10 and PM-2.5 idling emissions were calculated separately to account for 15-minutes of on-site idling per truck per day.<sup>9</sup> The analysis assumed an unmitigated scenario where each truck trip idles for 15-minutes per day, which conservatively overestimates idling emissions. The results were added to the total PM-10 and PM-2.5 emissions from CalEEMod and presented in the table below. The closest sensitive receptor to the Project operations will be the existing New Creation Church southeast of the Project site along Business Park Drive, approximately 985 feet (300 meters) away. The closest receptor distances on the LST look-up tables are 200 and 500 meters. Therefore, a receptor distance of 200 meters (656 feet) was used to ensure a conservative analysis. The results are summarized in **Table 6 – Unmitigated LST Results for Daily Operational Emissions**.

**Table 6 – Unmitigated LST Results for Daily Operational Emissions**

Pollutant	Peak Daily Emissions (lb/day)			
	NO <sub>x</sub>	CO	PM-10 <sup>1</sup>	PM-2.5 <sup>1</sup>
<b>5-Acre LST at 200 meters</b>	<b>488</b>	<b>6,860</b>	<b>23</b>	<b>8</b>
On-Site Emissions	3.58	40.90	0.28	0.26
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: The greater of summer or winter emissions from CalEEMod is shown. Output attached herewith.

<sup>1</sup> Idling emissions added to CalEEMod output emissions

Therefore, as indicated in the table above, Project-related long-term operational emissions will not exceed any SCAQMD operational LST.

### CO Hot Spots Analysis

A carbon monoxide (CO) “hot spot” is a localized concentration of CO that is above the state or federal 1-hour or 8-hour ambient air quality standards (AAQS). Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles.

Based on the information presented below, a CO “hot spot” analysis is not needed to determine whether the addition of Project related traffic will contribute to an exceedance of either the state or federal AAQS for CO emissions in the Project area.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD’s 2003 Air Quality Management Plan (2003 AQMP)<sup>10</sup> and the Revised 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan).<sup>11</sup> As discussed in the 2003 AQMP, peak carbon monoxide concentrations reported in the 1992 CO Plan in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of

<sup>9</sup> Idling emission factors obtained from EMFAC2021; idling calculations attached herewith

<sup>10</sup> SCAQMD, *2003 Air Quality Management Plan, August 1, 2003*. (Available at <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>, accessed April 28, 2023.)

<sup>11</sup> SCAQMD, *Revision to the 1992 Carbon Monoxide Attainment Plan*, September 1994. (Available at SCAQMD.)

particular intersections (2003 AQMP Appendix V, p. V-4-32). Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of the 1992 CO Plan and subsequent plan updates and air quality management plans.

In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: Long Beach Blvd. and Imperial Highway (Lynwood); Wilshire Blvd. and Veteran Ave. (Westwood); Sunset Blvd. and Highland Ave. (Hollywood); and La Cienega Blvd. and Century Blvd. (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated in the 1992 CO Plan and subsequent 2003 AQMP was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day (2003 AQMP Appendix V, Table 4-7). The Los Angeles County Metropolitan Transportation Authority (MTA)<sup>12</sup> evaluated the LOS in the vicinity of the Wilshire Blvd./Veteran Ave. intersection and found it to be level E at peak morning traffic and Level F at peak afternoon traffic (MTA, Exhibit 2-5 and 2-6). This hot spot analysis was conducted at intersections subject to extremes in vehicle volumes and vehicle congestion, and did not predict any violation of CO standards. Considering that Project-related traffic would result in an increase of 592 daily trips on local roadways,<sup>13</sup> it can reasonably be concluded that Project-related traffic would not have daily traffic volumes exceeding those at the intersections modeled in the 2003 AQMP, nor would there be any reason unique to the meteorology to conclude that intersections affected by the Project would yield higher CO concentrations if modeled in detail. Thus, the Project would not result in CO hot spots.

## ■ Greenhouse Gas Analysis

Greenhouse gases (GHG) are not presented in lbs/day like criteria pollutants; they are typically evaluated on an annual basis using the metric system. Additionally, unlike the criteria pollutants, GHG do not have adopted significance thresholds associated with them at this time. Several agencies, at various levels, have proposed draft GHG significance thresholds for use in CEQA documents. SCAQMD has been working on GHG thresholds for development projects. The most recent draft proposal was in September 2010<sup>14</sup> and included significance thresholds for residential, commercial, and mixed-use projects at 3,500, 1,400, and 3,000 metric tonnes per year of carbon dioxide equivalents (MTCO<sub>2</sub>E/yr), respectively. Alternatively, a lead agency has the option to use 3,000 MTCO<sub>2</sub>E/yr as a threshold for all non-industrial projects. Although both options are recommended by SCAQMD, a lead agency is advised to use only one option and to use it consistently. In December 2008, the SCAQMD adopted a threshold of 10,000 MTCO<sub>2</sub>E/yr for stationary source projects where SCAQMD is the lead agency. This approach is also widely used by the City of Perris and various other cities in the South Coast Air Basin. Further, this threshold has been applied by the City of Perris for other industrial developments subject to CEQA (Lake Creek Industrial Perris Wilson, Westport Perris Industrial, First Industrial Warehouse 2 at Wilson Avenue, Phelan Warehouse at W Nance/N Webster, and Duke Warehouse at Patterson Avenue and Nance). As such, this threshold is utilized herein to determine if emissions of GHG from this Project will be significant. The SCAQMD significance thresholds also evaluate construction emissions by amortizing them over an expected project life of 30 years.

## Short-Term Analysis

### Construction-Related Emissions

The CalEEMod model calculates GHG emissions from fuel usage by construction equipment and construction-related activities, like construction worker trips, for the Project. The CalEEMod estimate does not analyze emissions from construction-related electricity or natural gas. Construction-related

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<sup>12</sup> Metropolitan Transportation Authority, *2004 Congestion Management Plan for Los Angeles County*, Adopted July 22, 2004. (Available at <https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/B12.pdf>, accessed April 28, 2023.)

<sup>13</sup> Albert A. Webb Associates, *Focused Traffic Study, Sinclair Street Warehouse*, DPR 22-00027, June 12, 2023

<sup>14</sup> [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2)



electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify. The CalEEMod output results for construction-related GHG emissions present the GHG emissions estimates for the Project for CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), refrigerants (R), and CO<sub>2</sub>E.<sup>15</sup>

**Table 7 – Project Construction Equipment GHG Emissions**

Year	Metric Tons per year (MT/yr)				
	Total CO <sub>2</sub>	Total CH <sub>4</sub>	Total N <sub>2</sub> O	Total R	Total CO <sub>2</sub> E
2024	1,465.00	0.05	0.14	1.51	1,509.00
2025	120.00	0.00	0.01	0.13	123.00
Total	<b>1,585.00</b>	<b>0.05</b>	<b>0.15</b>	<b>1.64</b>	<b>1,632.00</b>
			<b>Amortized</b>		<b>54.40</b>

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

Evaluation of the table above indicates that an estimated 1,632 MTCO<sub>2</sub>E will occur from Project construction equipment over the course of the estimated construction period. The draft SCAQMD GHG threshold Guidance document released in October 2008<sup>16</sup> recommends that construction emissions be amortized for a project lifetime of 30 years to ensure that GHG reduction measures address construction GHG emissions as part of the operational reduction strategies. Therefore, the total GHG emissions from Project construction were amortized and are included in **Table 9**, below.

## Long-Term Analysis

### Area Source Emissions

CalEEMod estimates the GHG emissions associated with area sources which include landscape equipment emissions, architectural coating, consumer products, and hearths. Landscape equipment servicing the Project site create CO<sub>2</sub> resulting from fuel combustion based on the Project’s land uses. Consumer products consist of consumer use of solvents and personal care products and architectural coatings consist of an average building square footage to be repainted each year. **Table 9** summarizes the Project’s area source emissions.

### Energy-Related Emissions

CalEEMod estimates the GHG emissions associated with building electricity and natural gas usage (non-hearth) for each land use type. Electricity and natural gas used in buildings is typically generated at an off-site power plant which indirectly generates GHG emissions. The default energy usage values used in CalEEMod are based on the CEC sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies and reflect 2019 Title 24 improvements (CalEEMod User’s Guide, Appendix D5).

GHG emissions from the operation of electric forklifts and yard trucks were calculated outside of CalEEMod using data from SCAQMD for forklift and yard truck usage, annual forklift electricity consumption from the Electric Power Research Institute (EPRI), and the forecast carbon intensity data from CalEEMod for the electricity provider (Southern California Edison (SCE)). The Project is estimated to use approximately 51 forklifts, based on an average usage of 0.12 forklifts per 1,000 square feet of building area provided by SCAQMD (427,224 /1,000 x 0.12 = 51.27).<sup>17</sup> The typical annual electricity usage from electric forklifts is between 12,960 to 25,932 kilowatt-hours (kWh).<sup>18</sup> The mid-point of 19,446 kWh per year per forklift was used, which equals approximately 992 megawatt-hours (MWh) per year.

<sup>15</sup> CO<sub>2</sub>E is the sum of CO<sub>2</sub> emissions estimated plus the sum of CH<sub>4</sub>, N<sub>2</sub>O, and refrigerant emissions estimated multiplied by their respective global warming potential (GWP).

<sup>16</sup> [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf?sfvrsn=2)

<sup>17</sup> SCAQMD, *SCAQMD High Cube Truck Trip Warehouse Study White Paper Summary of Business Survey Results*, June 2014. Available at: <https://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf?sfvrsn=2>

<sup>18</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/electricity/epri\\_2015.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/electricity/epri_2015.pdf)

The Project is estimated to use approximately two-yard trucks, based on an average of 3.6-yard trucks per million square feet provided by SCAQMD (0.42 million square feet x 3.6 = 1.54).<sup>19</sup> The estimated annual electricity usage from each electric yard truck is 84 kWh per day which equals approximately 61,320 KWh per year or 61 MWh per year for the Project (84 kWh x 2 x 365)/1,000 = 61 MWh),<sup>20</sup> The GHG emissions calculations are attached herewith.

The GHG emissions from electricity usage from the future electric vehicle (EV) charging stations serving the Project site’s designated twenty-five (25) EV charging spaces were estimated outside CalEEMod. Emissions were estimated using data from SCAQMD for EV charging station usage and the CalEEMod default Southern California Edison (SCE) carbon intensity data forecast for 2025. It was assumed that each designated EV charging space would contain one charger and, based on SCAQMD<sup>21</sup> data, that each charger would be a 50-kilowatt (kW) charger used approximately 10 hours per day or five separate two-hour charging events. Based on these assumptions, each EV charger would use approximately 450 kilowatt-hours (kWh) of electricity per day. The following table summarizes the GHG emissions estimates reported by CalEEMod for the Project based on the assumptions described above.

**Table 8 – Energy-Related GHG Emissions**

Source	Metric Tons per year (MT/yr)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> E
Electricity <sup>1</sup>	374.00	0.04	0.00	1,029.12
Natural Gas	433.00	0.04	0.00	434.00
<b>Total</b>	<b>807.00</b>	<b>0.08</b>	<b>0.00</b>	<b>1,463.12</b>

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

<sup>1</sup>. Total MTCO<sub>2</sub>E emission include building energy usage estimated in CalEEMod plus the estimated forklift, yard truck, and EV charging station electricity usage calculated outside of CalEEMod and are attached herewith.

### Mobile Source Emissions

CalEEMod estimates the annual GHG emissions from Project-related vehicle usage based on trip generation data contained in defaults or in a project-specific traffic analyses. As stated above, the trip generation rate and fleet mix were adjusted based on the rates and ratios found in the *City of Perris Focused Traffic Study, Sinclair Street Warehouse, DPR 22-00027*. Trip length data was based on CalEEMod defaults for passenger cars. The trip length of 40 miles for Project trucks was used as recommended by the City and based on SCAQMD’s *Final Staff Report for proposed Rule 2305 and Rule 316*. CalEEMod also estimates the GHG emissions from refrigerant leakage from vehicle air conditioning (A/C) systems. **Table 9** shows the mobile source emissions from the Project.

### Solid Waste Emissions

CalEEMod also calculates the GHG emissions associated with the disposal of solid waste into landfills based on default data contained within the model for waste disposal rates, composition, and the characteristics of landfills throughout the state. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. **Table 9** shows the solid waste emissions from the Project.

<sup>19</sup> SCAQMD, *Governing Board Meeting Agenda: May 7, 2021. Item 27: Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions*, May 2021. Available at: <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10>.

<sup>20</sup> *Ibid.*

<sup>21</sup> SCAQMD, *Board Meeting Agenda No. 27, May 7, 2021, Attachment I, Final Staff Report, Proposed Rule 2305 – Warehouse Indirect Source Rule - Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305*. (Available at <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10>, accessed April 28, 2023).

## Water-Related Energy Usage

Electricity is also indirectly used in water supply, treatment, and distribution, as well as wastewater treatment in Southern California and plays a large role in GHG production.

There are three processes necessary to supply potable water to urban users (i.e., residential, commercial, and industrial): (1) supply of the water from the source; (2) treatment of the water to potable standards; and (3) distribution of the water to individual users. After use, the wastewater is treated and either reused as reclaimed/recycled water or returned to the environment. CalEEMod calculates the GHG emissions from these processes based on default emissions factors and water/wastewater generation rates for a project's location. Total water demand was based on rates obtained from the *2015 Water Facilities Master Plan Update, Volume 1, September 2016*.<sup>22</sup> The outdoor water demand was based on CalEEMod defaults that are calculated using the maximum applied water allowance (MAWA) method established under the California Department of Water Resources. The indoor water demand was calculated by subtracting the total water demand by the outdoor water demand. **Table 9** shows the GHG emissions from water-related energy usage for the Project.

## Total Project GHG Emissions

As shown on **Table 9 – Total Project-Related GHG Emissions**, using all the emissions quantified above, the total GHG emissions generated from the Project is approximately 4,242.16 MTCO<sub>2</sub>E/yr which includes construction-related emissions amortized over a typical project life of 30 years.

**Table 9 – Total Project-Related GHG Emissions**

Source	Metric Tons per year (MT/yr)				
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	R	Total CO <sub>2</sub> E
Amortized Construction	--	--	--	--	54.40
Area	17.90	0.00	0.00	0.00	18.00
Energy	807.00	0.08	0.00	0.00	1,463.12
Mobile	2,506.00	0.08	0.21	3.79	2,574.00
Solid Waste	35.80	3.58	0.00	0.00	125.00
Water	4.86	0.09	0.00	0.00	7.64
<b>Total</b>	<b>3,371.56</b>	<b>3.83</b>	<b>0.29</b>	<b>3.79</b>	<b>4,242.16</b>

Note: Emissions are rounded and any reported as zero are not necessarily equal to zero.

The total GHG emissions from the Project do not exceed the SCAQMD interim threshold of level of 10,000 MTCO<sub>2</sub>E/yr for industrial projects.

## ▪ Recommended Mitigation Measures

*The following mitigation measure identified in the Perris Valley Commerce Center Specific Plan EIR is recommended to reduce VOC emissions from Project construction:*

**MM AQ 9:** To reduce VOC emissions associated with architectural coating, the project designer and contractor shall reduce the use of paints and solvents by utilizing pre-coated materials (e.g. bathroom stall dividers, metal awnings), materials that do not require painting, and require coatings and solvents with a VOC content lower than required under Rule 1113 to be utilized. The construction contractor shall be required to utilize “Super-Compliant” VOC paints, which are defined in SCAQMD’s Rule 1113. Construction specifications shall be included in building specifications that assure these requirements are implemented. The specifications for each implementing development project shall be reviewed by the City of Perris’ Building Division for compliance with this mitigation measure prior to issuance of a building permit for that project.

<sup>22</sup> Eastern Municipal Water District, *2015 Water Facilities Master Plan Update, Volume 1, September 2016*, Available at Eastern Municipal Water District.

## ▪ Impacts after Mitigation

Implementation of PVCCSP EIR mitigation measure **MM AQ 9** will reduce the Project’s short-term construction-related emissions. PVCCSP EIR mitigation measure **MM AQ 9** has quantitative reductions associated with it available in CalEEMod. The mitigated emissions are shown in **Table 10**, below, and indicate that VOC emissions from architectural coatings (painting) activities will be reduced below the SCAQMD thresholds.

**Table 10 – Mitigated Estimated Daily Construction Emissions**

Activity	Peak Daily Emissions (lb/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM-10	PM-2.5
<b>SCAQMD Daily Construction Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
2024	<b>35.40</b>	<b>65.40</b>	<b>62.00</b>	<b>0.23</b>	<b>11.40</b>	<b>4.74</b>
2025	30.70	27.50	54.50	0.07	8.20	2.62
<b>Maximum<sup>1</sup></b>	<b>35.40</b>	<b>65.40</b>	<b>62.00</b>	<b>0.23</b>	<b>11.40</b>	<b>4.74</b>
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Notes: <sup>1</sup>See the detailed model output report attached herewith. Numbers are the maximum of summer or winter emissions in a given year. Maximum emissions are shown in bold.

With implementation of PVCCSP EIR mitigation measure **MM AQ 9**, VOC emissions associated with painting activities will be reduced below applicable thresholds.

## ▪ Conclusion

The conclusion of this analysis indicates that construction of the proposed Project will not exceed criteria pollutant thresholds established by SCAQMD on a regional level with the implementation of mitigation. The analysis also concludes that operation of the proposed Project will not exceed criteria pollutant thresholds established by SCAQMD on a regional level. The Project’s construction and operation will not exceed criteria pollutant thresholds established by SCAQMD on a localized level. In addition, the Project will not create a CO hot spot. The Project’s GHG emissions will also not exceed the SCAQMD interim threshold of 10,000 MTCO<sub>2</sub>E/yr.

Should you have any questions, please contact me at (951) 686-1070.