

Table 1 – Total Construction-Related Fuel Consumption

Duke Warehouse at Patterson Avenue and Nance Street

Fuel	Consumption	
Diesel		
On-Road Construction Trips ¹	43,663	Gallons
Off-Road Construction Equipment ²	57,680	Gallons
Diesel Total	101,343	Gallons
Gasoline		
On-Road Construction Trips ¹	75,211	Gallons
Off-Road Construction Equipment ³	-	Gallons
Gasoline Total	75,211	Gallons

Notes:

1. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod for construction in 2022 and fleet-average fuel consumption in gallons per mile from EMFAC2017 web based data for Riverside County. See Table 2 for calculation details.
2. Off-road mobile source fuel usage based on a fuel usage rate of 0.05 gallons of diesel per horsepower (HP)-hour, based on SCAQMD CEQA Air Quality Handbook, Table A9-3E.
3. All emissions from off-road construction equipment were assumed to be diesel.

Table 2 – On-Road Construction Trip Estimates

Duke Warehouse at Patterson Avenue and Nance Street

Trip Type	Trips	Trip length	Vehicle Miles Traveled (VMT)	Fuel Efficiency	Annual Fuel Usage ¹	
	(trips)	(miles)	(miles)	(mpg)	(Fuel)	(gallon)
Worker ^{2,3}	148,802	14.7	2,187,389	28.4	Gasoline	75,211
Vendor ⁴	55,118	6.9	380,314	9.2	Diesel	43,663
Hauling ⁵	0	20	0	7.1	Diesel	0

Notes:

1. On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod output (See Air Quality/GHG Memo) for construction and fleet-average fuel consumption in gallons per mile from EMFAC2017 web based data for 2022 in Riverside County.
2. Worker trips were assumed to be 100% gasoline powered vehicles.
3. Per CalEEMod, worker Trips were assumed to be 50% LDA, 25% LDT1, and 25% LDT2.
4. Vendor trips were assumed to be 50% MHDT and 50% HHDT, split evenly between the MHDT and HHDT construction categories.
5. Per CalEEMod, hauling trips were assumed to be 100% HHDT.

Table 3 – Annual Energy Consumption from Operation

Duke Warehouse at Patterson Avenue and Nance Street

Fuel Type	Energy Consumption	Units	Natural Gas	Units
Electricity				
Building ¹	2,117,811	kWh/year	1,547,030	kBTU/yr
Water ²	82,146	kWh/year		
Forklifts ³	1,796,036	kWh/year		
Yard Trucks ⁴	84,953	kWh/year		
EV Charging Stations ⁵	3,942,000	kWh/year		
Total Electricity	8,022,946	kWh/year		
Mobile⁶				
Gasoline	213,255	gallons/year		
Diesel	136,733	gallons/year		

Notes:

1. Building electricity use from CalEEMod output (See Air Quality/GHG Memo).
2. Calculated based on the Project's annual water consumption using CalEEMod SCAQMD energy intensity of 0.0111 kWh per gallon for supply, distribution, and treatment of water and 0.013021 kWh per gallon for supply, distribution, and treatment of water and wastewater treatment.
3. Electric forklift estimates includes approx. 92 forklifts, each using 19,446 kWh per year based on usage rate of 0.12 forklifts per 1,000 square feet from the SCAQMD High Cube Truck Trip Warehouse Study White Paper Summary of Business Survey Results, June 2014 and annual electricity consumption from the Electric Power Research Institute in 2015 (See Air Quality/GHG Memo).
4. Electric yard truck estimates includes approx. 3 yard trucks each using 84 kWh per year based on 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 (See Air Quality/GHG Memo).
5. 24 Electric Vehicle (EV) charging stations assumed. Per SCAQMD's Final Staff Report for Proposed Rule 2305 and Proposed Rule 316, May 2021, each charging station is assumed to have a 50 kW charger and daily usage is estimated at approximately 10 hours a day, or equal to approximately 450 kWh per day.
6. Mobile source fuel use based on annual vehicle miles traveled (VMT) from CalEEMod output for operational year 2023 and fleet-average fuel consumption in gallons per mile from EMFAC2017 web based data in Riverside County.