

# Appendix D

## **Energy Calculations**



## **D-1 Construction**

**La Terra Del Rey  
Construction Energy Analysis**

**Annual Fuel Summary**

<b>Heavy-Duty Construction Equipment</b>	
73,606	Total Project Consumption
33,457	Annual Consumption
<b>Haul Trucks</b>	
38,895	Total Project Consumption
17,680	Annual Consumption
<b>Vendor Trucks</b>	
20,711	Total Project Consumption
9,414	Annual Consumption
<b>Workers</b>	
91,324	Total Project Consumption
41,511	Annual Consumption
59,606	Project Consumption of diesel for Haul Trucks and Vendors
27,094	Annual Consumption
133,213	Total Gallons Diesel
91,324	Total Gallons Gasoline

9/1/2024 Construction Modeling Start (CalEEMod output)  
 10/31/2026 Construction Modeling Start (CalEEMod output)  
 2.2 Estimated Project Construction Duration (years)

<b>60,551 Annual Average Gallons Diesel</b>
<b>41,511 Annual Average Gallons Gasoline</b>

Los Angeles County (2021)			Percent of Annual Project Compared to Los Angeles County
Source	Fuel Type	Gallons	
Workers	Gasoline	3,061,000,000	0.001%
Off-Road/Vendor/Haul Trucks	Diesel	445,300,000	0.014%

Notes:

1 Gasoline and diesel amounts from CEC, 2022. Available: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>

**Annual Average Electricity Summary (over Construction Duration)**

Temporary Construction Trailer - Electricity and Off-Road Equipment	12,500 kWh/year
Water Conveyance for Dust Control	2,122 kWh/year
<b>Total</b>	<b>14,622 kWh/year</b>
Total LADWP <sup>2</sup> , 2026-2027	23,807,000 kWh/year
Project percentage of Utility	0.0001%

Notes:

2 Los Angeles Department of Water and Power (LADWP), 2017 *Final Power Integrated Resource Plan*, Appendix A, 2017. [https://www.ladwp.com/cs/idcplg?IdcService=GET\\_FILE&dDocName=OPLADWPCCB655007&RevisionSelectionMethod=LatestReleased](https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB655007&RevisionSelectionMethod=LatestReleased)

*Project Operations, Total (see operations worksheets):* 2,347,005 kWh/year  
*Percent of Project Construction Electricity to Project Operations:* 0.62% kWh/year

**La Terra Del Rey  
Construction Energy Analysis**

**Temporary Construction Trailer - Electricity**

<b>Land Use</b>	<b>Square Feet</b>	<b>Energy Use per year (kWh)</b>	<b>Total Energy Use (kWh)</b>	<b>GHG Emissions (MTCO2e/yr)</b>	<b>Total GHG Emissions for Construction Duration (MTCO2e)</b>	<b>Electricity Demand (kWh/sf)</b>
General Office	1,000	12,500	27,500	7.6	16.8	12.50
Note: CalEEMod 2020.4.0 factors used to estimate energy use for temporary construction office						

From CalEEMod Output:	
CO2 Intensity	609 lb/MWh
CH4 Intensity	0.033 lb/MWh
N2O Intensity	0.004 lb/MWh

La Terra Del Rey  
 Construction Energy  
 Construction Water Energy Estimates

Park Zone	Source	Acreage/Day	Number of Days	Total Construction Water Use (Mgal)	Electricity Demand from Water Conveyance (MWh)	Annual Average Electricity Demand from Water Conveyance (MWh)	Total GHG Emissions for Construction Duration (MTCO2e)
4112 Del Rey	Demolition	0.5	44	0.066	0.9	0.4	0.2
4112 Del Rey	Grading	1	66	0.198	2.6	1.2	0.7
4112 Del Rey	Mat Foundation	0.5	63	0.095	1.2	0.6	0.3
4112 Del Rey	Building Construction	0	305	0.000	0.0	0.0	0.0
4112 Del Rey	Paving	0	22	0.000	0.0	0.0	0.0
4112 Del Rey	Architectural Coating	0	65	0.000	0.0	0.0	0.0
<b>Total</b>				<b>0.359</b>	<b>4.7</b>	<b>2.1</b>	<b>1.3</b>

CalEEMod Water Electricity Factors	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
	9727	111	1272	1911

From CalEEMod Output:	
CO2 Intensity	609 lb/MWh
CH4 Intensity	0.033 lb/MWh
N2O Intensity	0.004 lb/MWh

Sources and Assumptions:

CalEEMod Appendix A, Pg. 8, based on given piece of equipment can pass over in an 8-hour workday

-Electricity Intensity Factors - California Emissions Estimator Model (CalEEMod).

-Estimated construction water use assumed to be generally equivalent to landscape irrigation, based on a factor of 20.94 gallons per year per square foot of landscaped area within the Los Angeles area (Mediterranean climate), which assumes high water demand landscaping materials and an irrigation system efficiency of 85%.

Factor is therefore (20.94 GAL/SF/year) x (43,560 SF/acre) / (365 days/year) / (0.85) = 2,940 gallons/acre/day, rounded up to 3,000 gallons/acre/day.

(U.S. Department of Energy, Energy Efficiency & Renewable Energy, Federal Energy Management Program. "Guidelines for Estimating Unmetered Landscaping Water Use." July 2010. Page 12, Table 4 - Annual Irrigation Factor – Landscaped Areas with High Water Requirements).

La Terra Del Rey  
Construction Energy Analysis  
Off-Road Equipment

**Equipment ≤ 100 hp**  
pounds diesel fuel/hp-hr (lb/hp-hr):<sup>-1</sup> 0.408 lb/hp-hr  
diesel density (lb/gal):<sup>-1</sup> 7.11 lb/gal  
diesel gallons/hp-hr: 0.0574 gal/hp-hr  
Total horsepower-hours: 692,195 hp-hr  
Total diesel gallons: 39,727 gal

**Equipment > 100 hp**  
pounds diesel fuel/hp-hr (lb/hp-hr):<sup>-1</sup> 0.367 lb/hp-hr  
diesel density (lb/gal):<sup>-1</sup> 7.11 lb/gal  
diesel gallons/hp-hr: 0.0516 gal/hp-hr  
Total horsepower-hours: 656,253 hp-hr  
Total diesel gallons: 33,879 gal

**Total diesel gallons (off-road equipment): 73,606 gal**

CARB, [https://www.arb.ca.gov/msei/ordiesel/ordas\\_ef\\_fcf\\_2017.pdf](https://www.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017.pdf)  
[1. OFFROAD2017 Emission Factor Documentation](#)

Project	Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr	Electric Equipment	Electric Conversion (kW/HP)	Electric Demand (kWh)
4112 Del Rey	Demolition	Excavators	1	8	158	0.38	44	21,134	-	-	-
4112 Del Rey	Demolition	Skid Steer Loaders	1	8	247	0.40	44	34,778	-	-	-
4112 Del Rey	Demolition	Tractors/Loaders/Backhoes	1	8	97	0.37	44	12,633	-	-	-
4112 Del Rey	Grading	Excavators	1	8	158	0.38	66	31,701	-	-	-
4112 Del Rey	Grading	Graders	1	8	187	0.41	66	40,482	-	-	-
4112 Del Rey	Grading	Skid Steer Loaders	1	8	247	0.40	66	52,166	-	-	-
4112 Del Rey	Grading	Tractors/Loaders/Backhoes	1	8	97	0.37	66	18,950	-	-	-
4112 Del Rey	Mat Foundation	Excavators	1	12	158	0.38	63	45,390	-	-	-
4112 Del Rey	Mat Foundation	Pumps	1	12	84	0.74	63	46,993	-	-	-
4112 Del Rey	Mat Foundation	Rough Terrain Forklifts	1	12	89	0.20	63	13,457	-	-	-
4112 Del Rey	Mat Foundation	Skid Steer Loaders	1	12	65	0.37	63	18,182	-	-	-
4112 Del Rey	Mat Foundation	Tractors/Loaders/Backhoes	1	12	97	0.37	63	27,133	-	-	-
4112 Del Rey	Mat Foundation	Trenchers	1	12	78	0.50	63	29,484	-	-	-
4112 Del Rey	Building Construction	Aerial Lifts	1	8	46	0.45	305	50,508	-	-	-
4112 Del Rey	Building Construction	Air Compressors	1	8	78	0.48	305	91,354	-	-	-
4112 Del Rey	Building Construction	Cranes	1	8	231	0.29	305	163,456	-	-	-
4112 Del Rey	Building Construction	Forklifts	1	8	89	0.20	305	43,432	-	-	-
4112 Del Rey	Building Construction	Generator Sets	1	8	84	0.74	305	151,670	-	-	-
4112 Del Rey	Building Construction	Pavers	1	8	130	0.42	305	133,224	-	-	-
4112 Del Rey	Building Construction	Paving Equipment	1	8	132	0.36	305	115,949	-	-	-
4112 Del Rey	Building Construction	Tractors/Loaders/Backhoes	1	8	97	0.37	305	87,572	-	-	-
4112 Del Rey	Paving	Pavers	1	8	130	0.42	22	9,610	-	-	-
4112 Del Rey	Paving	Paving Equipment	1	8	132	0.36	22	8,364	-	-	-
4112 Del Rey	Architectural Coating	Aerial Lifts	2	8	63	0.31	65	20,311	-	-	-
4112 Del Rey	Architectural Coating	Air Compressors	2	8	78	0.48	65	38,938	-	-	-
4112 Del Rey	Architectural Coating	Forklifts	1	8	89	0.20	65	9,256	-	-	-
4112 Del Rey	Architectural Coating	Generator Sets	1	8	84	0.74	65	32,323	-	-	-
								<b>Total - &gt;100 hp</b>	<b>656,253</b>	<b>Total Electricity</b>	-
								<b>Total - &lt;100 hp</b>	<b>692,195</b>	<b>Average per Year</b>	-

**La Terra Del Rey**  
**Total On-Road Fuel Consumption**

gal/mile			
2021	Hauling	Hauling	0.17163556
2021	Vendor	Vendor	0.14228491
2021	Worker	Worker	0.04006185
2022	Hauling	Hauling	0.16994622
2022	Vendor	Vendor	0.14134669
2022	Worker	Worker	0.03932686
2023	Hauling	Hauling	0.16765003
2023	Vendor	Vendor	0.13998726
2023	Worker	Worker	0.03854242
2024	Hauling	Hauling	0.1656907
2024	Vendor	Vendor	0.13888166
2024	Worker	Worker	0.03771161
2025	Hauling	Hauling	0.16346378
2025	Vendor	Vendor	0.13752209
2025	Worker	Worker	0.0368976
2026	Hauling	Hauling	0.1612349
2026	Vendor	Vendor	0.13616514
2026	Worker	Worker	0.03612173
2027	Hauling	Hauling	0.15897566
2027	Vendor	Vendor	0.13483512
2027	Worker	Worker	0.03542319

**La Terra Del Rey**  
**Total On-Road Fuel Consumption**

Source	Fuel Type	Total Fuel Use (gal)
Hauling	Diesel	38,895
Vendor	Diesel	20,711
Worker	Gasoline	91,324

Fuel Type	Total Fuel Use	Annual Fuel Use
Diesel	59,606	27,094
Gasoline	91,324	41,511

Duration of Construction	
Start	9/1/2024
End	10/31/2026
2.2	years

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)	gal/mile	gal/min	Regional Emissions (gallons)	
								gal/day	Total Gallons/yr
<u>Demolition</u>	2024								
Total Haul Trips	1420								
Hauling	66	22	8	25	15	0.17	0.00E+00	273	6,015
Vendor	0	22	8	6.9	5	0.14	0.00E+00	0	0
Worker	14	22	8	14.7	5	0.04	0.00E+00	8	171
<u>Grading</u>	2024								
Total Haul Trips	4386								
Hauling	110	40	8	25	15	0.17	0.00E+00	456	18,226
Vendor	0	40	8	6.9	5	0.14	0.00E+00	0	0
Worker	24	40	8	14.7	5	0.04	0.00E+00	13	532

<u>Grading</u>	2024								
Total Haul Trips	434								
Hauling	110	4	8	25	15	0.17	0.00E+00	456	1,823
Vendor	0	4	8	6.9	5	0.14	0.00E+00	0	0
Worker	24	4	8	14.7	5	0.04	0.00E+00	13	53
<u>Grading</u>	2025								
Total Haul Trips	2380								
Hauling	110	22	8	25	15	0.16	0.00E+00	450	9,890
Vendor	0	22	8	6.9	5	0.14	0.00E+00	0	0
Worker	24	22	8	14.7	5	0.04	0.00E+00	13	286
<u>Mat Foundation</u>	2025								
Total Haul Trips	712								
Hauling	12	60	8	25	15	0.16	0.00E+00	49	2,942
Vendor	100	60	8	6.9	5	0.14	0.00E+00	95	5,693
Worker	140	60	8	14.7	5	0.04	0.00E+00	76	4,556
<u>Paving</u>	2025								
Total Haul Trips	0								
Hauling	0	22	8	25	15	0.16	0.00E+00	0	0
Vendor	0	22	8	6.9	5	0.14	0.00E+00	0	0
Worker	28	22	8	14.7	5	0.04	0.00E+00	15	334
<u>Construction</u>	2025								
Total Haul Trips	0								
Hauling	0	169	8	25	15	0.16	0.00E+00	0	0
Vendor	50	169	8	6.9	5	0.14	0.00E+00	47	8,018
Worker	500	169	8	14.7	5	0.04	0.00E+00	271	45,832
<u>Construction</u>	2026								
Total Haul Trips	0								
Hauling	0	136	8	25	15	0.16	0.00E+00	0	0
Vendor	50	136	8	6.9	5	0.14	0.00E+00	47	6,389
Worker	500	136	8	14.7	5	0.04	0.00E+00	265	36,107
<u>Architectual Coatings</u>	2026								
Total Haul Trips	0								
Hauling	0	65	8	25	15	0.16	0.00E+00	0	0
Vendor	10	65	8	6.9	5	0.14	0.00E+00	9	611
Worker	100	65	8	14.7	5	0.04	0.00E+00	53	3,451



## **D-2 Operations**

## Existing Uses

**La Terra Del Rey**  
**Existing Uses Energy Demand**

Electricity	kWh/yr	MWh/yr
General Office Building	259,863	260
Manufacturing	120,285	120
Parking Lot	20,468	20
<b>Total Building Energy</b>	<b>400,616</b>	<b>401</b>
<b>Total (including water, see below)</b>	<b>482,127</b>	<b>482</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Water	Million Gallon	MWh
General Office Building	3.70	48.2
Manufacturing	2.56	33.3
Parking Lot	-	-
<b>Total</b>	<b>6.3</b>	<b>82</b>

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	MWh/yr
<b>Total</b>	<b>81,511</b>	<b>81.511</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Natural Gas	kBtu/yr	cubic foot (cf)
General Office Building	214,335	207,087
Manufacturing	198,925	192,198
Parking Lot	-	-
<b>Total</b>	<b>413,260</b>	<b>399,285</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018, [https://www.eia.gov/dnav/ng/ng\\_cons\\_heat\\_a\\_EPG0\\_VGTH\\_btucf\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm). Accessed March 2020.)

Electricity	MWh/yr
LADWP 2026-2027 Total Energy Sales	23,807,000
Existing Annual	482

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

**Unmitigated**

Land Use	Indoor/Outdoor Use	Mgal
General Office Building	3.695087	2.26473
Manufacturing	2.562257	0
Parking Lot	0.70	
<b>Total</b>		

**Unmitigated**

Land Use	Electricity Use	kWh/yr
General Office Building	259863	
Manufacturing	120285	
Parking Lot	20467.6	
<b>Total</b>		

**Unmitigated**

Natural Gas	million cubic foot (cf)
SoCalGas 2026	845,705
Existing Annual	0.399

Source: California Gas and Electric Utilities, 2020 California Gas Report, p. 145, 2020. Daily value multiplied by 365 to obtain annual.

Land Use	Natural Gas Use	kBTU/yr
General Office Building	214335	
Manufacturing	198925	
Parking Lot	0	
<b>Total</b>		

**La Terra Del Rey**  
**Existing Uses Energy Demand**  
**Fuel Usage from VMT**

Annual VMT (CalEEMod Output): 712,099 miles/year

Fuel Type: <sup>1</sup>	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid
Percent:	91.1%	4.8%	2.2%	0.3%	1.6%
Miles per Gallon Fuel:	23.4	8.2	-	4.0	53.3
Annual VMT by Fuel Type (miles):	649,018	34,130	15,630	2,226	11,096
Annual Fuel Usage (gallons):	27,708	4,158	-	79,871	208
Annual Fuel Usage w/ Plug-in Hybrid (gallons):	27,916	-	-	-	-
Annual Fuel Savings from Electric Vehicles: <sup>2</sup>	-	-	667	-	-

	Los Angeles County Fuel Consumption <sup>3</sup>	
	Gasoline	Diesel
Los Angeles County:	3,061,000,000	445,328,032
Project Annual Mobile:	77,325	13,565
<b>Project Annual Total:</b>	<b>77,325</b>	<b>13,565</b>
Existing Annual Mobile:	27,916	4,158
<b>Existing Annual Total:</b>	<b>27,916</b>	<b>4,158</b>
<b>Net Annual:</b>	<b>49,409</b>	<b>9,406</b>
Percent Net Project of Los Angeles County:	0.002%	0.002%

Notes:

1. California Air Resources Board, EMFAC2021 (South Coast Air Basin; Annual; 2022, Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results (Year 2021 data). Available at: [https://ww2.energy.ca.gov/almanac/transportation\\_data/gasoline/piira\\_retail\\_survey.html](https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). Diesel is adjusted to account for retail (50.3%) and non-retail (49.7%) diesel sales.

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2022, 2026

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Row Labels	Sum of Total VMT	Sum of Total VMT2	Sum of Fuel Consumption	MPG
<b>2022</b>	<b>49.18%</b>	<b>281,521,319.97</b>	<b>12,899.22</b>	<b>2022</b>
Diesel	4.79%	13,492,998.24	1,643.90	8.21
Electricity	2.19%	6,179,079.11	-	
Gasoline	91.14%	256,582,808.18	10,953.96	23.42
Natural Gas	0.31%	879,880.94	219.01	4.02
Plug-in Hybrid	1.56%	4,386,553.49	82.35	53.27
<b>2030</b>	<b>50.82%</b>	<b>290,966,781.87</b>	<b>11,454.00</b>	<b>2030</b>
Diesel	5.30%	15,435,266.86	1,682.48	9.17
Electricity	5.78%	16,824,106.77	-	
Gasoline	86.09%	250,496,331.19	9,472.09	26.45
Natural Gas	0.29%	837,045.79	180.56	4.64
Plug-in Hybrid	2.53%	7,374,031.25	118.88	62.03
<b>Grand Total</b>	<b>100.00%</b>	<b>572,488,101.84</b>	<b>24,353.22</b>	

# Proposed Project

**La Terra Del Rey  
Proposed Project Energy Demand**

Electricity	kWh/yr	MWh/yr
Apartments	804,424	804
Enclosed Parking with Elevator	706,117	706
General Office	365,113	365
City Park	-	-
Natural Gas -> Electricity (All Elec. Bldg.)	230,998	231
EV Charging (EVSE)	70,664	71
<b>Total Building Energy</b>	<b>2,177,316</b>	<b>2,177</b>
<b>Total (including water, see below)</b>	<b>2,578,529</b>	<b>2,579</b>
<b>Net Increase over Existing</b>	<b>2,096,402</b>	<b>2,096</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Water	Million Gallon	MWh
Apartments	22.31	290.5
Enclosed Parking with Elevator	-	-
General Office	8.37	109.0
City Park	0.13	1.7
<b>Total</b>	<b>30.8</b>	<b>401</b>
<b>Electricity Intensity Factors kWh/Mgal</b>		
Electricity Factor - Supply	9,727	
Electricity Factor - Treat	111	
Electricity Factor - Distribute	1,272	
Electricity Factor - Wastewater Treatment	1,911	
<b>Electricity from Water Demand kWh/yr MWh/yr</b>		
<b>Total</b>	<b>401,213</b>	<b>401.213</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments	-	-
Enclosed Parking with Elevator	-	-
General Office	-	-
City Park	-	-
<b>Total</b>	<b>-</b>	<b>-</b>
<b>Net Increase over Existing</b>	<b>(413,260)</b>	<b>(399,285)</b>

Source: California Air Resources Board, CalEEMod Output, Version 2020.4.0.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018, [https://www.eia.gov/dnav/ng/ng\\_cons\\_heat\\_a\\_EPG0\\_VGTH\\_btucf\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm). Accessed March 2020.)

**5.3 Energy by Land Use  
Unmitigated**

Electricity	MWh/yr
LADWP 2026-2027 Total Energy Sales	23,807,000
Project Net Annual	2,096
Percent of Project to Utility	0.009%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Land Use	Electricity Use kWh/yr
Apartments Mid Rise	804424
City Park	0
Enclosed Parking with Elevator	706117
General Office Building	365113

**7.2 Water by Land Use  
Unmitigated**

Land Use	Indoor/Outdoor Use Mgal
Apartments Mid Rise	13.6823 / 8.62583
City Park	0 / 0.131063
Enclosed Parking with Elevator	0 / 0
General Office Building	5.1916 / 3.18195

Natural Gas	million cubic foot (cf)
SoCalGas 2026	845,705
Project Net Annual	(0.399)
Percent of Project to Utility	-0.00005%

Source: California Gas and Electric Utilities, 2020 California Gas Report, p. 145, 2020. Daily value multiplied by 365 to obtain annual.

**La Terra Del Rey**  
**Project Operational Energy Demand**  
**Natural Gas conversion to Electricity (all electric building)**

CALEEMOD 5.3

Natural Gas	CALEEMOD 5.2 Natural Gas Use		Electrical equivalent to Nat Gas	CALEEMOD 5.3		CALEEMOD 5.3		
	kBtu/yr	cubic foot (cf)	Electrification (kWh/yr)	Electricity Use (kWh/yr)	Total Electricity (kWh/yr)	Emissions related to CALEEMOD Electricity MT CO2e/yr	Emissions related to No Nat Gas Electricity MT CO2e/yr	Total Emissions MT CO2e/yr
Apartments High Rise		-	-		-			
Apartments Mid Rise	1,892,270	1,828,280	150,539	804,424	954,963	169.8	26.8	196.6
Enclosed Parking with Elevator		-	-		-			
General Office Building	301,145	290,961	80,459	365,113	445,572	77.1	13.9	91.0
Health Club		-	-		-			
High Turnover (Sit Down Restaurant)		-	-		-			
Hotel		-	-		-			
Other Asphalt Surfaces		-	-		-			
Other Non-Asphalt Surfaces		-	-		-			
Parking Lot	0	-	-	706,117	706,117	149.1	-	149.1
Quality Restaurant		-	-		-			
Regional Shopping Center		-	-		-			
Condo/Townhouse		-	-		-			
Mobile Sources		-	-		-			
<b>Total</b>	<b>2,193,415</b>	<b>2,119,242</b>	<b>230,998</b>	<b>1,875,654</b>	<b>2,106,652</b>	<b>396</b>	<b>40.7</b>	<b>436.7</b>

Source: California Air Resources Board, CalEEMod, Version 2020.4.0.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

[https://www.eia.gov/dnav/ng/ng\\_cons\\_heat\\_a\\_EPG0\\_VGTH\\_btucf\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm). Accessed March 2020.)



**La Terra Del Rey  
Project Operational Energy Demand**

**Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)**

<b>Land Use Type</b>	<b>Number of Parking Spaces with EV Chargers or EV Capable</b>	<b>Percent of Spaces with EV Chargers or EV Capable</b>	<b>Average Charge (kWh/day) <sup>a</sup></b>	<b>Days/Year</b>	<b>Electricity Demand (kWh/yr)</b>	<b>Electricity Demand (MWh/yr)</b>
<b>Total</b>	<b>44</b>	<b>100.0%</b>	<b>4.4</b>	<b>365</b>	70,664	70.66

Notes:

- a. Estimated based on reference sources listed below.
- b. Project would install EV charging spaces for 10 percent of its parking capacity for immediate use
- c. Project would provide 14 stalls equipped with charging stations, 28 EV capable stalls, and 71 EV ready stalls for future stations.

Sources:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.  
Available at: [https://www.afdc.energy.gov/vehicles/electric\\_emissions\\_sources.html](https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html).

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.  
Available at: [https://www.afdc.energy.gov/uploads/publication/WPCC\\_L1ChargingAtTheWorkplace\\_0716.pdf](https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf).

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.  
Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

**La Terra Del Rey  
Project Operational Energy Demand  
Fuel Usage from VMT**

Annual VMT (Transportation Assessment):<sup>1</sup> 2,345,855 miles/year

Fuel Type: <sup>2</sup>	Gasoline	Diesel	Electricity	Natural Gas	Plug-in Hybrid
Percent:	86.1%	5.3%	5.8%	0.3%	2.5%
Miles per Gallon Fuel:	26.4	9.2	-	4.6	62.0
Annual VMT by Fuel Type (miles):	2,019,571	124,443	135,641	6,748	59,451
Annual Fuel Usage (gallons):	76,367	13,565	-	209,881	958
Annual Fuel Usage w/ Plug-in Hybrid (gallons):	77,325	-	-	-	-
Annual Fuel Savings from Electric Vehicles: <sup>3</sup>	-	-	5,129	-	-

	Los Angeles County Fuel Consumption <sup>4</sup>	
	Gasoline	Diesel
Los Angeles County:	3,061,000,000	445,328,032
Project Annual Mobile:	77,325	13,565
<b>Project Annual Total:</b>	<b>77,325</b>	<b>13,565</b>
Existing Annual Mobile:	27,916	4,158
<b>Existing Annual Total:</b>	<b>27,916</b>	<b>4,158</b>
<b>Net Annual:</b>	<b>49,409</b>	<b>9,406</b>
Percent Net Project of Los Angeles County:	0.002%	0.002%

58,815 = Gasoline + Diesel

- Notes:
1. Gibson Transportation Consulting, Inc., Transportation Assessment for the 4112 Del Rey Avenue Residential Project, 2022 (estimated daily VMT multiplied by 365).
  2. California Air Resources Board, EMFAC2021 (South Coast Air Basin; Annual; 2026', Aggregate Fleet).
  3. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
  4. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results (Year 2021 data). Available at: [https://ww2.energy.ca.gov/almanac/transportation\\_data/gasoline/piira\\_retail\\_survey.html](https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). Diesel is adjusted to account for retail (50.3%) and non-retail (49.7%) diesel sales.

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2022, 2026

Season: Annual

Vehicle Classification: EMFAC2007 Categories

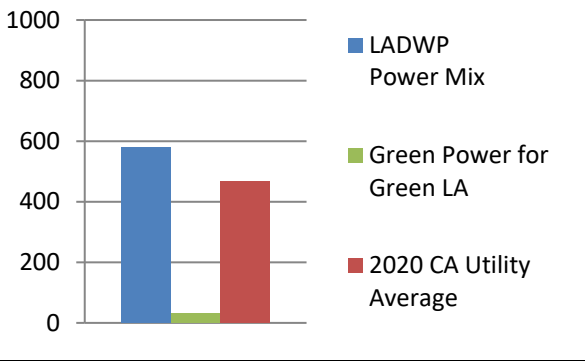
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Row Labels	Sum of Total VMT	Sum of Total VMT2	Sum of Fuel Consumption	MPG
<b>2022</b>	<b>49.18%</b>	<b>281,521,319.97</b>	<b>12,899.22</b>	<b>2022</b>
Diesel	4.79%	13,492,998.24	1,643.90	8.21
Electricity	2.19%	6,179,079.11	-	
Gasoline	91.14%	256,582,808.18	10,953.96	23.42
Natural Gas	0.31%	879,880.94	219.01	4.02
Plug-in Hybrid	1.56%	4,386,553.49	82.35	53.27
<b>2030</b>	<b>50.82%</b>	<b>290,966,781.87</b>	<b>11,454.00</b>	<b>2030</b>
Diesel	5.30%	15,435,266.86	1,682.48	9.17
Electricity	5.78%	16,824,106.77	-	
Gasoline	86.09%	250,496,331.19	9,472.09	26.45
Natural Gas	0.29%	837,045.79	180.56	4.64
Plug-in Hybrid	2.53%	7,374,031.25	118.88	62.03
<b>Grand Total</b>	<b>100.00%</b>	<b>572,488,101.84</b>	<b>24,353.22</b>	

## 2020 POWER CONTENT LABEL

**LADWP**

<https://www.ladwp.com/powercontent>

Greenhouse Gas Emissions Intensity (lbs CO <sub>2</sub> e/MWh)			Energy Resources	LADWP Power Mix	Green Power for Green LA	2020 CA Power Mix
LADWP Power Mix	Green Power for Green LA	2020 CA Utility Average	<b>Eligible Renewable<sup>1</sup></b>	<b>36.7%</b>	<b>100.0%</b>	<b>33.1%</b>
<b>579</b>	<b>31</b>	<b>466</b>	Biomass & Biowaste	0.1%	0.0%	2.5%
 <p style="font-size: small;">■ LADWP Power Mix ■ Green Power for Green LA ■ 2020 CA Utility Average</p>			Geothermal	9.6%	0.0%	4.9%
			Eligible Hydroelectric	1.7%	0.0%	1.4%
			Solar	14.5%	13.7%	13.2%
			Wind	10.8%	86.3%	11.1%
			<b>Coal</b>	<b>16.0%</b>	<b>0.0%</b>	<b>2.7%</b>
			<b>Large Hydroelectric</b>	<b>5.4%</b>	<b>0.0%</b>	<b>12.2%</b>
			<b>Natural Gas</b>	<b>27.9%</b>	<b>0.0%</b>	<b>37.1%</b>
			<b>Nuclear</b>	<b>14.0%</b>	<b>0.0%</b>	<b>9.3%</b>
			<b>Other</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.2%</b>
			<b>Unspecified Power<sup>2</sup></b>	<b>0.1%</b>	<b>0.0%</b>	<b>5.4%</b>
			<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Percentage of Retail Sales Covered by Retired Unbundled RECs<sup>3</sup>:</b>				<b>1%</b>	<b>0%</b>	
<p><sup>1</sup>The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.</p> <p><sup>2</sup>Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.</p> <p><sup>3</sup>Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.</p> <p style="text-align: center;"><b>The unbundled RECs retired in association with LADWP's 2020 electricity portfolios were sourced from eligible renewable energy generators using biogas, biomass, eligible hydroelectric, solar, wind and geothermal energy resources.</b></p>						
For specific information about this electricity portfolio, contact:			<b>Los Angeles Department of Water and Power</b> <b>1-800-DIAL-DWP</b>			
For general information about the Power Content Label, visit:			<a href="http://www.energy.ca.gov/pcl/">http://www.energy.ca.gov/pcl/</a>			
For additional questions, please contact the California Energy Commission at:			Toll-free in California: 844-454-2906 Outside California: 916-653-0237			