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SUBJECT: PERRIS DC 11 ENERGY TABLES

The following Energy Tables were prepared for the proposed Perris DC 11 development (referred to as “Project”) which is located in the City of Perris.

CONSTRUCTION POWER COSTS

Based on the 2023 *National Construction Estimator* (1), the typical power cost per 1,000 square feet (sf) of building construction per month is estimated to be \$2.50. The Project is proposed Project would develop the 29.5-acre site, located in the City of Perris, with a new high-cube warehouse facility and related site improvements. The Project includes construction and operation of approximately 551,922 square feet (sf) of new building space, which would include 5,000 sf of office and mezzanine space. Table 1 estimates the total power cost of the on-site electricity usage during the construction of the proposed Project to be approximately \$37,960.86.

TABLE 1: PROJECT CONSTRUCTION POWER COST

| Land Use | Power Cost (per 1,000 SF of construction per month) | Size (1,000 SF) | Construction Duration (months) | Project Construction Power Cost |
|--------------------------------|--|--------------------|--------------------------------------|---------------------------------------|
| TUMF Fulfillment Center | \$2.50 | 413.942 | 12 | \$12,418.25 |
| Cold Storage | \$2.50 | 137.981 | 12 | \$4,139.42 |
| Landscape | \$2.50 | 164.700 | 12 | \$4,941.00 |
| Parking | \$2.50 | 182.649 | 12 | \$5,479.47 |
| Other Asphalt Surfaces | \$2.50 | 366.091 | 12 | \$10,982.73 |
| CONSTRUCTION POWER COST | | | | \$37,960.86 |

CONSTRUCTION ELECTRICITY USAGE

The SCE’s general service rate schedule were used to determine the Project’s electrical usage. As of May 31, 2023, SCE’s general service rate is \$0.13 per kilowatt hours (kWh) of electricity for industrial services (2), the total electricity usage from on-site Project construction related activities is estimated to be approximately 295,841 kWh.

TABLE 2: PROJECT CONSTRUCTION ELECTRICITY USAGE

| Land Use | Cost per kWh | Project Construction Electricity Usage (kWh) |
|---------------------------------------|--------------|--|
| TUMF Fulfillment Center | \$0.13 | 96,779 |
| Cold Storage | \$0.13 | 32,260 |
| Landscape | \$0.13 | 38,507 |
| Parking | \$0.13 | 42,703 |
| Other Asphalt Surfaces | \$0.13 | 85,592 |
| CONSTRUCTION ELECTRICITY USAGE | | 295,841 |

CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

Fuel consumption estimates are presented in Table 3. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (CARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (3). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region. As presented in Table 3, Project construction activities would consume an estimated 46,924 gallons of diesel fuel.

TABLE 3: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

| Construction Activity | Duration (Days) | Equipment | HP Rating | Quantity | Usage Hours | Load Factor | HP-hrs/day | Total Fuel Consumption |
|---|-----------------|---------------------------|-----------|----------|-------------|-------------|------------|------------------------|
| Site Preparation | 20 | Rubber Tired Dozers | 367 | 3 | 8 | 0.40 | 3,523 | 3,809 |
| | | Crawler Tractors | 87 | 4 | 8 | 0.43 | 1,197 | 1,294 |
| Grading | 45 | Excavators | 36 | 2 | 8 | 0.38 | 219 | 532 |
| | | Graders | 148 | 1 | 8 | 0.41 | 485 | 1,181 |
| | | Rubber Tired Dozers | 367 | 1 | 8 | 0.40 | 1,174 | 2,857 |
| | | Scrapers | 423 | 2 | 8 | 0.48 | 3,249 | 7,902 |
| | | Crawler Tractors | 87 | 2 | 8 | 0.43 | 599 | 1,456 |
| Trenching | 10 | Dumpers/Tenders | 16 | 2 | 8 | 0.38 | 97 | 53 |
| | | Excavators | 36 | 4 | 8 | 0.38 | 438 | 237 |
| | | Plate Compactors | 8 | 4 | 8 | 0.43 | 110 | 60 |
| | | Skid Steer Loaders | 71 | 1 | 8 | 0.37 | 210 | 114 |
| | | Tractors/Loaders/Backhoes | 84 | 2 | 8 | 0.37 | 497 | 269 |
| Building Construction | 200 | Cranes | 367 | 1 | 8 | 0.29 | 851 | 9,205 |
| | | Forklifts | 82 | 3 | 8 | 0.20 | 394 | 4,255 |
| | | Generator Sets | 14 | 1 | 8 | 0.74 | 83 | 896 |
| | | Tractors/Loaders/Backhoes | 84 | 3 | 8 | 0.37 | 746 | 8,064 |
| | | Welders | 46 | 1 | 8 | 0.45 | 166 | 1,790 |
| Paving | 35 | Pavers | 81 | 2 | 8 | 0.42 | 544 | 1,030 |
| | | Paving Equipment | 89 | 2 | 8 | 0.36 | 513 | 970 |
| | | Rollers | 36 | 2 | 8 | 0.38 | 219 | 414 |
| Architectural Coating | 70 | Air Compressors | 37 | 1 | 8 | 0.48 | 142 | 538 |
| CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL) | | | | | | | | 46,924 |

CONSTRUCTION WORKER FUEL ESTIMATES

For purposes of analysis, it is assumed that 50% of all worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks with a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs (LDT1), and 25% are from light-duty-trucks with a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs (LDT2). Data regarding Project related construction worker trips were based on CalEEMod 2022.1 model defaults utilized within the AQIA. Vehicle fuel efficiencies for LDAs, LDT1s, and LDT2s were estimated using information generated within the 2021 version of the EMFAC developed by the CARB.

Table 4 provides an estimated annual fuel consumption resulting from the Project generated by LDAs, LDT1s, and LDT2s related to construction worker trips. Based on Table 4, it is estimated that 33,514 gallons of fuel will be consumed related to construction worker trips during full construction of the proposed Project.

TABLE 4: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (1 OF 2)

| Year | Construction Activity | Duration (Days) | Worker Trips/Day | Trip Length (miles) | VMT | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|------|-----------------------|-----------------|------------------|---------------------|---------|------------------------------------|--------------------------------------|
| 2025 | LDA | | | | | | |
| | Site Preparation | 20 | 9 | 18.5 | 3,330 | 32.49 | 102 |
| | Grading | 45 | 10 | 18.5 | 8,325 | 32.49 | 256 |
| | Trenching | 10 | 17 | 18.5 | 3,145 | 32.49 | 97 |
| | Building Construction | 142 | 116 | 18.5 | 304,732 | 32.49 | 9,379 |
| | LDT1 | | | | | | |
| | Site Preparation | 20 | 5 | 18.5 | 1,850 | 25.14 | 74 |
| | Grading | 45 | 5 | 18.5 | 4,163 | 25.14 | 166 |
| | Trenching | 10 | 9 | 18.5 | 1,665 | 25.14 | 66 |
| | Building Construction | 142 | 58 | 18.5 | 152,366 | 25.14 | 6,061 |
| | LDT2 | | | | | | |
| | Site Preparation | 20 | 5 | 18.5 | 1,850 | 25.29 | 73 |
| | Grading | 45 | 5 | 18.5 | 4,163 | 25.29 | 165 |
| | Trenching | 10 | 9 | 18.5 | 1,665 | 25.29 | 66 |
| | Building Construction | 142 | 58 | 18.5 | 152,366 | 25.29 | 6,025 |

TABLE 4: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (2 OF 2)

| Year | Construction Activity | Duration (Days) | Worker Trips/Day | Trip Length (miles) | VMT | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|------|---|-----------------|------------------|---------------------|---------|------------------------------------|--------------------------------------|
| 2026 | LDA | | | | | | |
| | Building Construction | 58 | 116 | 18.5 | 124,468 | 33.43 | 3,723 |
| | Paving | 35 | 8 | 18.5 | 5,180 | 33.43 | 155 |
| | Architectural Coating | 70 | 23 | 18.5 | 29,785 | 33.43 | 891 |
| | LDT1 | | | | | | |
| | Building Construction | 58 | 58 | 18.5 | 62,234 | 25.70 | 2,421 |
| | Paving | 35 | 4 | 18.5 | 2,590 | 25.70 | 101 |
| | Architectural Coating | 70 | 12 | 18.5 | 15,540 | 25.70 | 605 |
| | LDT2 | | | | | | |
| | Building Construction | 58 | 58 | 18.5 | 62,234 | 26.01 | 2,393 |
| | Paving | 35 | 4 | 18.5 | 2,590 | 26.01 | 100 |
| | Architectural Coating | 70 | 12 | 18.5 | 15,540 | 26.01 | 597 |
| | TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION | | | | | | |

CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

It is assumed that 50% of all vendor trips are from Medium-Heavy-Duty-Trucks (MHDT), 50% are from Heavy-Heavy-Duty Trucks (HHDT), and 100% of hauling trips are HHDT. These assumptions are consistent with the CalEEMod 2022.1 defaults utilized within the within the AQIA. Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2021.

Table 5 shows the estimated fuel economy of MHDTs and HHDTs accessing the Project site. Based on Table 5, fuel consumption from construction trips will total approximately 56,799 gallons.

TABLE 5: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES

| Year | Construction Activity | Duration (Days) | Vendor Trips/Day | Trip Length (miles) | VMT | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|-----------------------|-----------------|------------------|---------------------|---------|------------------------------------|--------------------------------------|
| 2025 | MHD | | | | | | |
| | Site Preparation | 20 | 4 | 10.2 | 816 | 8.58 | 95 |
| | Grading | 45 | 8 | 10.2 | 3,672 | 8.58 | 428 |
| | Trenching | 10 | 2 | 10.2 | 204 | 8.58 | 24 |
| | Building Construction | 142 | 33 | 10.2 | 47,797 | 8.58 | 5,570 |
| | HHD (Vendor) | | | | | | |
| | Site Preparation | 20 | 4 | 10.2 | 816 | 6.22 | 131 |
| | Grading | 45 | 8 | 10.2 | 3,672 | 6.22 | 591 |
| | Trenching | 10 | 2 | 10.2 | 204 | 6.22 | 33 |
| | Building Construction | 142 | 33 | 10.2 | 47,797 | 6.22 | 7,687 |
| | HHD (Hauling) | | | | | | |
| | Grading | 45 | 255 | 20 | 229,500 | 6.22 | 36,911 |
| 2026 | MHD | | | | | | |
| | Building Construction | 58 | 33 | 10.2 | 19,523 | 8.71 | 2,243 |
| | HHD (Vendor) | | | | | | |
| Building Construction | 58 | 33 | 10.2 | 19,523 | 6.33 | 3,086 | |
| TOTAL CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION | | | | | | | 56,799 |

TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. Table 6 presents the estimated annual fuel consumption from Project-generated traffic during Project operations.

TABLE 6: PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION

| Vehicle Type | Average Vehicle Fuel Economy (mpg) | Annual VMT | Estimated Annual Fuel Consumption (gallons) |
|-----------------------------|------------------------------------|------------------|---|
| LDA | 33.43 | 1,467,630 | 43,896 |
| LDT1 | 25.70 | 112,455 | 4,375 |
| LDT2 | 26.01 | 606,112 | 23,304 |
| MDV | 16.01 | 468,335 | 29,258 |
| MCY | 16.01 | 68,344 | 4,270 |
| LHD1 | 16.89 | 378,736 | 22,419 |
| LHD2 | 16.01 | 107,970 | 6,745 |
| MHD | 8.71 | 152,072 | 17,468 |
| HHD | 6.33 | 760,663 | 120,245 |
| TRUs | | | 22,390 |
| TOTAL (ALL VEHICLES) | | 4,122,316 | 294,370 |

MDV = Medium Duty Trucks; LHD1 = Light-Duty Trucks (Vehicles under the LHD1 category have a GVWR of 8,501 to 10,000 lbs.); LHD2 = Light-Duty Trucks (Vehicles under the LHD2 category have a GVWR of 10,001 to 14,000 lbs.); OBUS = Other Buses; UBUS = Urban Buses
 MCY = Motorcycle; SBUS = School Bus; MH = Motorhome

FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of electricity, which would be supplied to the Project by SCE. Annual electricity demands of the Project are summarized in Table 7.

Based on information provided by the Project Applicant, the Project would not use natural gas for the building envelope. As such, natural gas consumption has not been analyzed in this study.

TABLE 7: PROJECT ANNUAL OPERATIONAL NATURAL GAS AND ELECTRICITY DEMAND SUMMARY

| Land Use | Electricity Demand (kWh/year) |
|------------------------------------|-------------------------------|
| TUMF Fulfillment Center | 1,905,091 |
| Cold Storage | 3,017,566 |
| Landscape | 0 |
| Parking | 159,884 |
| Other Asphalt Surfaces | 0 |
| TOTAL PROJECT ENERGY DEMAND | 5,082,541 |

STATIONARY SOURCE ENERGY DEMANDS

Fuel consumption estimates from stationary sources are presented in Table 8. As previously stated, the aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. For the purposes of this analysis, the calculations are based on a 150 hp diesel-fueled fire pump and 350 hp diesel-fueled emergency generator. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region. As presented in Table 8, Project stationary sources would consume an estimated 3,608 gallons of diesel fuel.

TABLE 8: STATIONARY SOURCE EQUIPMENT FUEL CONSUMPTION ESTIMATES

| Equipment | HP Rating | Quantity | Usage Hours | Annual Hourly | Load Factor | HP-hrs/day | Total Fuel |
|---|------------------|-----------------|--------------------|----------------------|--------------------|-------------------|---------------------|
| Fire Pump | 150 | 1 | 0.5 | 50 | 0.73 | 55 | 1,080 |
| Emergency Generator | 350 | 1 | 0.5 | 50 | 0.73 | 128 | 2,527 |
| <i>STATIONARY SOURCE FUEL DEMAND (GALLONS DIESEL FUEL)</i> | | | | | | | <i>3,608</i> |

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