

Fuel and Energy Calculations

Gasoline and Diesel Use

| Existing Annual VMT: 144,082 miles | | | Fuel | |
|------------------------------------|----------|---------------|-----------------|---------------|
| Fleet Mix | 91% Auto | 131,115 miles | 20.4 mpg gas | 6,427 gallons |
| | 9% Other | 12,967 miles | 5.71 mpg diesel | 2,271 gallons |

| Project Annual VMT: 4,014,074 miles | | | Fuel | |
|-------------------------------------|----------|-----------------|----------------|-----------------|
| Fleet Mix | 91% Auto | 3,652,807 miles | 20.4 mpg gas | 179,059 gallons |
| | 9% Other | 361,267 miles | 5.7 mpg diesel | 63,380 gallons |

Worker Fuel (Gasoline, on-road)

| Phase | Trips | Length (mi) | Days | Total (miles) | MPG | Gallons |
|-----------------------|-------|-------------|------|------------------|-------------|----------------|
| Demolition | 100 | 14.7 | 41 | 60,270 | | |
| Grading | 40 | | 44 | 25,872 | | |
| Building Construction | 400 | | 870 | 5,115,600 | | |
| Arch Coating | 60 | | 44 | 38,808 | | |
| | | | | | | |
| Total | | | | 5,240,550 | 20.4 | 256,890 |

Vendor Fuel (Diesel, on-road)

| Phase | Trips | Length (mi) | Days | Total (miles) | MPG | Gallons |
|-----------------------|-------|-------------|------|------------------|-------------|----------------|
| Demolition | 60 | 6.9 | 41 | 16,974 | | |
| Grading | 60 | | 44 | 18,216 | | |
| Building Construction | 260 | | 870 | 1,560,780 | | |
| Arch Coating | 160 | | 44 | 48,576 | | |
| | | | | | | |
| Total | | | | 1,644,546 | 5.70 | 288,517 |

Haul Fuel (Diesel, on-road)

| Phase | Trips | Length (mi) | Total (miles) | MPG | Gallons |
|--------------|--------------|-------------|----------------|-----|---------|
| Demolition | 109 | 40 | 4,360 | | |
| Grading | 3,429 | 40 | 137,160 | | |
| Total | 3,538 | | 141,520 | | |

Construction Equipment (Diesel, off-road)

| Phase | Equipment | Units | Hours | HP | Load Factor | Average Daily Load Factor | Days | HP-Hours |
|-----------------------|---------------------------|-------|-------|-----|-------------|---------------------------|------|----------|
| Demolition | Concrete/Industrial Saws | 1 | 8 | 81 | 0.73 | 1 | 41 | 19,395 |
| Demolition | Rubber Tired Dozers | 1 | 1 | 247 | 0.40 | 1 | 41 | 4,051 |
| Demolition | Tractors/Loaders/Backhoes | 2 | 6 | 97 | 0.37 | 1 | 41 | 17,658 |
| Grading | Concrete/Industrial Saws | 1 | 8 | 81 | 0.73 | 1 | 44 | 20,814 |
| Grading | Rubber Tired Dozers | 1 | 1 | 247 | 0.40 | 1 | 44 | 4,347 |
| Grading | Tractors/Loaders/Backhoes | 2 | 6 | 97 | 0.37 | 1 | 44 | 18,950 |
| Building Construction | Cranes | 1 | 4 | 231 | 0.29 | 1 | 870 | 233,125 |
| Building Construction | Forklifts | 2 | 6 | 89 | 0.20 | 1 | 870 | 185,832 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 8 | 97 | 0.37 | 1 | 870 | 499,589 |
| Architectural Coating | Air Compressor | 1 | 6 | 78 | 0.48 | 1 | 44 | 9,884 |

| | |
|--------------|------------------|
| Total | 1,013,645 |
|--------------|------------------|

HP = horsepower gallons of diesel fuel per HP-hour = 0.05
 Equipment assumptions are provided in the CalEEMod output files (refer to Appendix A) and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

1,013,645 hp-hours = 50,682 gallons diesel

Water Usage for fugitive dust control during construction

Water application rate = 3,020 gallons/acre/day

Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

Grading 44 days x 0.584 acres x 3,020 gallons = 77,602 gallons x 0.009727 = 755 kWhr