

Otay Trails and Mitigation Bank Expansion
Air Quality/GHG/Energy Analysis Assumptions

CONSTRUCTION

Road Construction Emissions Model (v 9.0.0)

	Input	Notes/Source
Project Start Date	2020	Project Schedule
Project Type	2	Road Widening (mostly widening of existing trails, with some creation of new trails)
Project Construction Time	6	months
Working Days per Month	22	Default
Predominant Soil/Site Type	1	Sand/Gravel
Project Length	1.5	miles; east-west distance of project area (including all trail extensions)
Total Project Area	130.0	acres; provided by LB3 Enterprises
Maximum Area Disturbed/Day	0.75	acres/day; provided by LB3 Enterprises
Water Trucks Used?	Yes	Required as part of SDAPCD Rule 55
Import/Export		
Soil Import (cy)	0	No soil import
<i>Daily</i>	0	No soil import
Soil Export (cy)	1,560,000	cubic yards; assumes maximum on-site round trips would occur every day over the 24-week construction period
<i>Daily</i>	13,000	cubic yards; maximum of 650 round trips (on-site) per day according to data response, assumes 20-cy truck capacity
Asphalt Import (cy)	0.0	No asphalt import
<i>Daily</i>	0.0	No asphalt import
Asphalt Export (cy)	0.0	No asphalt export
<i>Daily</i>	0.0	No asphalt export
<i>Weighted Average of Haul Trip Length (round trip)</i>	0.26	miles; 350 round trips of 0.33 miles (on-site) and 300 round trips of 0.18 miles (on-site)
<i>Number of Construction Workers</i>	10	Provided by LB3 Enterprises
<i>Round Trip Mileage for Worker Trips</i>	40.0	Model default

Equipment Type	Fuel Type	Quantity	Hours/day
Site Preparation/Clearing			
Dozers	Diesel	2	8
Articulated Haul Trucks	Diesel	1	8
Wheel Loader	Diesel	1	8
Motor Grader	Diesel	1	8
Excavator	Diesel	2	8
Grading and Site Finish			
Dozers	Diesel	3	8
Articulated Haul Trucks	Diesel	4	8
Wheel Loader	Diesel	1	8
Motor Grader	Diesel	1	8
Excavator	Diesel	2	8
Grizzly Screen	Diesel	1	8

Construction equipment list provided by LB3 Enterprises; RCEM defaults assumed for horsepower and load factors

OPERATIONS

CalEEMod (v 2020.4.0)

Equipment Type	Fuel Type	Maximum Quantity	Hours/day
Line trimmers (Modeled as Other Construction Equipment, 10 hp)	Gasoline	6	8
Chainsaws (Modeled as Concrete/Industrial Saws)	Gasoline	4	8
Skid steer	Diesel	1	8

	Number of Round Trips	Round Trip Mileage
Workers	3	45
Visitors	1	10

Trips per acre	0.017140898	= 4 trips/233.36 acres
<i>Weighted Average of Operational Trip Length (round trip)</i>	13.75	

Otay Trails and Mitigation Bank Expansion
 Daily Criteria and Ozone Precursor Pollution Emissions Estimates

CONSTRUCTION

Road Construction Emissions Model (v 9.0.0)

Project Phases (Pounds)	Daily Emissions (lbs/day)									
	ROG	NOx	CO	SOx	Total PM10	Total PM2.5	CO2	CH4	N2O	CO2e
Site Preparation/Clearing	3	40	17	0	9	3	4,334.56	1.02	0.18	4,414.51
Grading and Site Finish	5	55	29	0	10	4	6,304.81	1.50	0.20	6,400.82
Maximum Concurrent (Phase Overlap)	8	96	46	0	19	7	10,639.37	2.52	0.38	10,815.33
SDAPCD Thresholds	75.00	250.00	550.00	250.00	100.00	67.00	N/A	N/A	N/A	N/A
Threshold Exceeded?	No	No	No	No	No	No	N/A	N/A	N/A	N/A

OPERATIONS

CalEEMod (v 2020.4.0)

	Daily Emissions (lbs/day)									
	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total	Total CO2	CH4	N2O	CO2e
Area	6	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0
Mobile	0	0	0	0	0	0	1	0	0	1
Offroad	2	15	18	0	1	1	2805	0		2812
Total	8	15	18	0	1	1	2,806	0	0	2,813
SDAPCD Thresholds	75	250	550	250	100	67	N/A	N/A	N/A	N/A
Threshold Exceeded?	No	No	No	No	No	No	N/A	N/A	N/A	N/A

Otay Trails and Mitigation Bank Expansion

Greenhouse Gas Emissions Estimates

CONSTRUCTION

Road Construction Emissions Model (v 9.0.0)

Project Phases	Metric Tons Per Year			
	CO2	CH4	N2O	CO2e
Site Preparation/Clearing	129.76	0.03	0.01	132
Grading and Site Finish	188.75	0.05	0.01	192
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00
Maximum (tons/phase)	188.75	0.05	0.01	191.62
Total (tons/construction project)	318.51	0.07	0.02	323.78

Amortized over 30 years

10.8

OPERATION

CalEEMod (v 2020.4.0)

	Metric Tons Per Year			
	Total CO2	CH4	N2O	CO2e
Area	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0
Mobile	0.1	0.0	0.0	0.1
Offroad	331	0	0	332
Waste	0	0	0	0
Water	0	0	0	0
Total	331	0	0	332

Otay Trails and Mitigation Bank Expansion
Energy Consumption Estimates

CONSTRUCTION

CO2e (MT)	pounds CO2 per metric ton	pounds CO2	pounds of CO2 per gallon diesel	gallons diesel	Btu/gal (gross)	MMBTU
323.780	2204.62262	713,813	22.4	31,866.64	138,700	4,419.90

Source: RCEM Output

=Col 1* Col 2

Source: Energy Information Administration 2016 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

=Col 3 / Col 4

Source: Transportation Energy Data Book, Edition 37.2, Table B.4

=Col 5*Col6/1 mill

OPERATIONS

CO2e (MT)	pounds CO2 per metric ton	pounds CO2	pounds of CO2 per gallon diesel	gallons diesel	Btu/gal (gross)	MMBTU
332	2205	731529	22	32658	138700	4530

Source: CalEEMod Output

=Col 1* Col 2

Source: Energy Information Administration 2016 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

=Col 3 / Col 4

Source: Transportation Energy Data Book, Edition 37.2, Table B.4

=Col 5*Col6/1 mill

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Otay Trails and Mitigation Bank Expansion														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	3.42	17.47	40.27	9.22	1.72	7.50	3.10	1.54	1.56	0.04	4,334.56	1.02	0.18	4,414.51
Grading/Excavation	5.08	28.78	55.45	9.99	2.49	7.50	3.82	2.26	1.56	0.06	6,304.81	1.50	0.20	6,400.82
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	8.50	46.25	95.72	19.21	4.21	15.00	6.92	3.80	3.12	0.11	10,639.37	2.52	0.38	10,815.33
Total (tons/construction project)	0.28	1.53	3.16	0.63	0.14	0.50	0.23	0.13	0.10	0.00	351.10	0.08	0.01	356.91

Notes:
 Project Start Year -> 2020
 Project Length (months) -> 6
 Total Project Area (acres) -> 130
 Maximum Area Disturbed/Day (acres) -> 1
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	7800	0	101	0	400	120
Grading/Excavation	7,800	0	101	0	400	120
Drainage/Utilities/Sub-Grade	0	0	0	0	0	40
Paving	0	0	0	0	0	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.


Total Emission Estimates by Phase for -> Otay Trails and Mitigation Bank Expansion														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.11	0.58	1.33	0.30	0.06	0.25	0.10	0.05	0.05	0.00	143.04	0.03	0.01	132.16
Grading/Excavation	0.17	0.95	1.83	0.33	0.08	0.25	0.13	0.07	0.05	0.00	208.06	0.05	0.01	191.62
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	0.17	0.95	1.83	0.33	0.08	0.25	0.13	0.07	0.05	0.00	208.06	0.05	0.01	191.62
Total (tons/construction project)	0.28	1.53	3.16	0.63	0.14	0.50	0.23	0.13	0.10	0.00	351.10	0.08	0.01	323.78

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model Data Entry Worksheet		Version 9.0.0		
<p>Note: Required data input sections have a yellow background. Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background. The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types. Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.</p>		<p>To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.</p>		
				
Input Type				
Project Name	Oray Trails and Mitigation Bank Expansion			
Construction Start Year	2020	Enter a Year between 2014 and 2040 (inclusive)		
Project Type	2	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway; 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane; 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction		
Project Construction Time	6.00	months		
Working Days per Month	22.00	days (assume 22 if unknown)		
Predominant Soil/Site Type: Enter 1, 2, or 3 <small>(for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)</small>	1	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)		
Project Length	1.50	miles		
Total Project Area	130.00	acres		
Maximum Area Disturbed/Day	0.75	acres		
Water Trucks Used?	1	1. Yes 2. No		
<div style="border: 1px solid black; padding: 5px; font-size: x-small;"> Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County. http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries </div>				
Material Hauling Quantity Input				
Material Type	Phase	Haul Truck Capacity (yd ³) (assume 20 if unknown)	Import Volume (yd ³ /day)	Export Volume (yd ³ /day)
Soil	Grubbing/Land Clearing	20.00	0.00	7800.00
	Grading/Excavation	20.00	0.00	7800.00
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			
Mitigation Options				
On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer; Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard		
Off-road Equipment Emissions Mitigation	No Mitigation			
The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.				

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of	Program	User Override of	Program
	Construction Months	Calculated Months	Phase Starting Date	Default Phase Starting Date
Grubbing/Land Clearing	3.00	0.60	10/1/2020	1/1/2020
Grading/Excavation	3.00	2.40	12/15/2020	4/2/2020
Drainage/Utilities/Sub-Grade	0.00	2.10	7/3/2020	7/3/2020
Paving	0.00	0.90		7/3/2020
Totals (Months)		6		

Note: You have entered a non-default starting date. Please provide starting date for all phases, or default values for other phases will be used.

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated
	Miles/Round Trip	Miles/Round Trip	Round Trips/Day	Round Trips/Day	Daily VMT
Miles/round trip: Grubbing/Land Clearing	0.26	30.00		390	101.40
Miles/round trip: Grading/Excavation	0.26	30.00		390	101.40
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Grading/Excavation (grams/mile)	0.44	1.17	6.68	0.22	0.15	0.02	1,865.44	0.02	0.29	1,953.33
Drainage/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.12	0.29	4.54	0.05	0.04	0.00	422.96	0.01	0.07	442.91
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.15	0.00	0.00	0.00	13.96	0.00	0.00	14.62
Pounds per day - Grading/Excavation	0.10	0.26	4.49	0.05	0.03	0.00	417.02	0.00	0.07	436.67
Tons per const. Period - Grading/Excavation	0.00	0.01	0.15	0.00	0.00	0.00	13.76	0.00	0.00	14.41
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.01	0.02	0.30	0.00	0.00	0.00	27.72	0.00	0.00	29.03

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated
	Miles/Round Trip	Miles/Round Trip	Round Trips/Day	Round Trips/Day	Daily VMT
Miles/round trip: Grubbing/Land Clearing	30.00			0	0.00
Miles/round trip: Grading/Excavation	30.00			0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	30.00			0	0.00
Miles/round trip: Paving	30.00			0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Grading/Excavation (grams/mile)	0.44	1.17	6.68	0.22	0.15	0.02	1,865.44	0.02	0.29	1,953.33
Drainage/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker		Default Values	
	Commute Default Values		Calculated	Calculated
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		8	20	400.00
No. of employees: Grading/Excavation		23	20	400.00
No. of employees: Drainage/Utilities/Sub-Grade		17	0	0.00
No. of employees: Paving		15	0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	1.22	0.11	0.05	0.02	0.00	350.90	0.01	0.01	353.67
Grading/Excavation (grams/mile)	0.02	1.12	0.10	0.05	0.02	0.00	341.74	0.00	0.01	344.26
Drainage/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	1.25	3.05	0.37	0.00	0.00	0.00	75.08	0.09	0.04	88.34
Grading/Excavation (grams/trip)	1.19	2.96	0.35	0.00	0.00	0.00	73.21	0.08	0.04	85.90
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.08	1.21	0.12	0.04	0.02	0.00	312.75	0.01	0.01	315.78
Tons per const. Period - Grubbing/Land Clearing	0.00	0.04	0.00	0.00	0.00	0.00	10.32	0.00	0.00	10.42
Pounds per day - Grading/Excavation	0.07	1.12	0.10	0.04	0.02	0.00	304.59	0.01	0.01	307.39
Tons per const. Period - Grading/Excavation	0.00	0.04	0.00	0.00	0.00	0.00	10.05	0.00	0.00	10.14
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.08	0.01	0.00	0.00	0.00	20.37	0.00	0.00	20.56

Note: Water Truck default values can be overridden in cells D153 through D156, H153 through H156, and F153 through F156.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust	3	1		5	15		8.00	120.00
Grading/Excavation - Exhaust	3	1		5	15		8.00	120.00
Drainage/Utilities/Subgrade		1		5	5		8.00	40.00
Paving		1		5	5		8.00	40.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Grading/Excavation (grams/mile)	0.44	1.17	6.68	0.22	0.15	0.02	1,865.44	0.02	0.29	1,953.33
Drainage/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.14	0.34	2.11	0.06	0.05	0.00	500.55	0.01	0.08	524.15
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.07	0.00	0.00	0.00	16.52	0.00	0.00	17.30
Pounds per day - Grading/Excavation	0.12	0.31	1.88	0.06	0.04	0.00	493.51	0.01	0.08	516.76
Tons per const. Period - Grading/Excavation	0.00	0.01	0.06	0.00	0.00	0.00	16.29	0.00	0.00	17.05
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.01	0.02	0.13	0.00	0.00	0.00	32.80	0.00	0.01	34.35

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.75	7.50	0.25	1.56	0.05
Fugitive Dust - Grading/Excavation		0.75	7.50	0.25	1.56	0.05
Fugitive Dust - Drainage/Utilities/Subgrade		0.00	0.00	0.00	0.00	0.00

Off-Road Equipment Emissions														
Grubbing/Land Clearing		Default Number of Vehicles	Mitigation Option Override of	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles		Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2		Model Default Tier	Excavators	0.25	3.27	2.41	0.12	0.11	0.01	50.12	0.16	0.00	505.51
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Generators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.48	1.81	6.33	0.20	0.19	0.01	642.72	0.21	0.01	649.64
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Rubber Tired Dozers	2.16	22.66	8.26	1.11	1.02	0.02	1,654.69	0.54	0.00	1,672.51
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3		Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.21	2.28	2.11	0.13	0.12	0.00	300.77	0.10	0.00	304.01
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment					<i>If non-default vehicles are used, please provide information in Non-default Off-road Equipment tab</i>									
Number of Vehicles		Equipment Tier		Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00			NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing				pounds per day	3.09	15.83	33.51	1.56	1.44	0.03	3,098.29	1.00	0.03	3,131.66
Grubbing/Land Clearing				tons per phase	0.10	0.52	1.11	0.05	0.05	0.00	102.24	0.03	0.00	103.34
Grading/Excavation		Default Number of Vehicles	Mitigation Option Override of	Default	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles		Program-estimate	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Crushing/Proc. Equipment	0.52	4.34	3.55	0.21	0.21	0.01	664.53	0.05	0.00	667.18
2.00	3		Model Default Tier	Excavators	0.46	6.54	4.40	0.21	0.20	0.01	1,000.36	0.32	0.01	1,011.15
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Generators	0.46	1.78	5.99	0.19	0.18	0.01	641.87	0.21	0.01	648.79
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00			Model Default Tier	Rubber Tired Dozers	3.16	12.16	33.10	1.61	1.48	0.03	2,482.05	0.80	0.02	2,508.79
0.00	1		Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3		Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	4		Model Default Tier	Tractors/Loaders/Backhoes	0.19	2.26	1.93	0.12	0.11	0.00	300.88	0.10	0.00	304.12
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment		If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab										
Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	3	Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3	Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		Model Default Tier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		NA	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Paving		tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions all Phases (tons per construction period) =>			0.26	1.41	2.72	0.13	0.12	0.00	270.20	0.08	0.00	272.95

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		82		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Otay Trails and Mitigation Bank Expansion
San Diego County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	233.36	Acre	233.36	10,165,161.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - -

Land Use -

Construction Phase - Based on schedule in project description; operations-only run

Off-road Equipment - Operations-only run

Off-road Equipment - Operations-only run

Trips and VMT - Operations-only run

On-road Fugitive Dust - Operations-only run

Grading - Operations-only run

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Trips - Maximum of 4 trips per day based on contractor responses

Road Dust - Assumed that 90% of the mileage of operational trips is paved, with the final 10% of the mileage occurring on unpaved surfaces

Operational Off-Road Equipment - Chainsaws modeled as concrete industrial saws and line trimmers modeled as other construction equipment with 10 hp (most commercial line trimmers have hp less than 5 hp).

Vehicle Emission Factors - -

Vehicle Emission Factors - -

Vehicle Emission Factors - -

Fleet Mix - -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	465.00	60.00
tblConstructionPhase	NumDays	180.00	60.00
tblConstructionPhase	PhaseEndDate	4/19/2022	3/8/2021
tblConstructionPhase	PhaseEndDate	7/7/2020	12/23/2020
tblConstructionPhase	PhaseStartDate	7/8/2020	12/15/2020
tblConstructionPhase	PhaseStartDate	10/30/2019	10/1/2020
tblGrading	AcresOfGrading	60.00	775.00
tblGrading	AcresOfGrading	90.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	10.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	539.98	720.49
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblRoadDust	RoadPercentPave	100	90
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	HO_TL	0.00	13.75

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	HO_TTP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	SU_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.5390	0.00	0.02	0.00		0.00	0.00		0.00	0.00		0.05	0.05	0.00		0.05
Energy	0.0000	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00
Mobile	7.6000e-003	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.72	0.72	0.00	0.00	0.83
Offroad	2.0635	15.33	18.45	0.03		0.90	0.90		0.89	0.89	0.00	2805.43	2805.43	0.28		2812.39
Total	7.6101	15.34	18.50	0.03	0.00	0.90	0.90	0.00	0.89	0.89	0.00	2806.20	2806.20	0.28	0.00	2813.27

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Other Non-Asphalt Surfaces	4.67	4.67	4.67		
Total	4.67	4.67	4.67		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543113	0.063255	0.185840	0.124300	0.025065	0.006074	0.008663	0.006151	0.000751	0.000534	0.029628	0.000994	0.005634

5.0 Energy Detail

Historical Energy Use: N

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.0 Area Detail

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.9363					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.6005					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2300e-003	2.2000e-004	0.0239	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0511	0.0511	1.4000e-004		0.0545
Total	5.5390	2.2000e-004	0.0239	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0511	0.0511	1.4000e-004		0.0545

7.0 Water Detail

8.0 Waste Detail

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Concrete/Industrial Saws	4	8.00	260	81	0.73	Diesel
Other Construction Equipment	6	8.00	260	10	0.42	Diesel
Skid Steer Loaders	1	8.00	260	65	0.37	Diesel

Otay Trails and Mitigation Bank Expansion - San Diego County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Concrete/Industrial Saws	1.5393	12.1516	14.6962	0.0250		0.6925	0.6925		0.6925	0.6925	0.0000	2,370.6586	2,370.6586	0.1377		2,374.1001
Other Construction Equipment	0.4487	2.1789	2.3589	2.4100e-003		0.1696	0.1696		0.1560	0.1560	0.0000	234.5743	234.5743	0.0759		236.4710
Skid Steer Loaders	0.0755	1.0035	1.3900	2.0700e-003		0.0408	0.0408		0.0376	0.0376	0.0000	200.1984	200.1984	0.0648		201.8171
Total	2.0635	15.3340	18.4451	0.0295		0.9029	0.9029		0.8861	0.8861	0.0000	2,805.4313	2,805.4313	0.2783		2,812.3881

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Otay Trails and Mitigation Bank Expansion
San Diego County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	233.36	Acre	233.36	10,165,161.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - -

Land Use -

Construction Phase - Based on schedule in project description; operations-only run

Off-road Equipment - Operations-only run

Off-road Equipment - Operations-only run

Trips and VMT - Operations-only run

On-road Fugitive Dust - Operations-only run

Grading - Operations-only run

Vehicle Trips - Maximum of 4 trips per day based on contractor responses

Road Dust - Assumed that 90% of the mileage of operational trips is paved, with the final 10% of the mileage occurring on unpaved surfaces

Operational Off-Road Equipment - Chainsaws modeled as concrete industrial saws and line trimmers modeled as other construction equipment with 10 hp (most commercial line trimmers have hp less than 5 hp).

Vehicle Emission Factors - -

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Emission Factors - -

Vehicle Emission Factors - -

Fleet Mix - -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	465.00	60.00
tblConstructionPhase	NumDays	180.00	60.00
tblConstructionPhase	PhaseEndDate	4/19/2022	3/8/2021
tblConstructionPhase	PhaseEndDate	7/7/2020	12/23/2020
tblConstructionPhase	PhaseStartDate	7/8/2020	12/15/2020
tblConstructionPhase	PhaseStartDate	10/30/2019	10/1/2020
tblGrading	AcresOfGrading	60.00	775.00
tblGrading	AcresOfGrading	90.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	172.00	10.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	539.98	720.49
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblRoadDust	RoadPercentPave	100	90
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	HO_TL	0.00	13.75
tblVehicleTrips	HO_TTP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.02
tblVehicleTrips	SU_TR	0.00	0.02
tblVehicleTrips	WD_TR	0.00	0.02

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0107	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.0000	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	1.3400e-003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.00	0.14
Offroad	0.2683	1.99	2.40	0.00		0.12	0.12		0.12	0.12	0.00	330.86	330.86	0.03	0.00	331.68
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.2803	1.99	2.41	0.00	0.00	0.12	0.12	0.00	0.12	0.12	0.00	330.98	330.98	0.03	0.00	331.82

4.0 Operational Detail - Mobile

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Other Non-Asphalt Surfaces	4.67	4.67	4.67		
Total	4.67	4.67	4.67		

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.0 Area Detail

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0107	2.0000e-005	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1700e-003	4.1700e-003	1.0000e-005	0.0000	4.4500e-003
Unmitigated	1.0107	2.0000e-005	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1700e-003	4.1700e-003	1.0000e-005	0.0000	4.4500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3534					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6571					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1700e-003	4.1700e-003	1.0000e-005	0.0000	4.4500e-003
Total	1.0107	2.0000e-005	2.1500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1700e-003	4.1700e-003	1.0000e-005	0.0000	4.4500e-003

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Concrete/Industrial Saws	4	8.00	260	81	0.73	Diesel
Other Construction Equipment	6	8.00	260	10	0.42	Diesel
Skid Steer Loaders	1	8.00	260	65	0.37	Diesel

Otay Trails and Mitigation Bank Expansion - San Diego County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Concrete/Industrial Saws	0.2001	1.5797	1.9105	3.2500e-003		0.0900	0.0900		0.0900	0.0900	0.0000	279.5810	279.5810	0.0162	0.0000	279.9868
Other Construction Equipment	0.0583	0.2833	0.3067	3.1000e-004		0.0221	0.0221		0.0203	0.0203	0.0000	27.6643	27.6643	8.9500e-003	0.0000	27.8879
Skid Steer Loaders	9.8100e-003	0.1305	0.1807	2.7000e-004		5.3100e-003	5.3100e-003		4.8800e-003	4.8800e-003	0.0000	23.6102	23.6102	7.6400e-003	0.0000	23.8011
Total	0.2683	1.9934	2.3979	3.8300e-003		0.1174	0.1174		0.1152	0.1152	0.0000	330.8554	330.8554	0.0328	0.0000	331.6758

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation