Appendix A

Air Quality and Greenhouse Gas Emissions Calculations

A.1-1 Assumptions

IBC Multi-Use Trail Barranca
Assumptions

Project Land Uses

Land Use Type	CalEEMod LandUse Type	CalEEMod LandUse Subtype	Amount	Unit	Building SF	Landscaping Area	Additional Notes
Barranca Trail	Linear	Other Asphalt	0.282	acre	N/A	N/A	
Overcrossing - Concrete Bridge, Truss Bridge, Maintenance Access	Linear	Other Non-asphalt surfa	0.267	acre	N/A	N/A	
Road Improvements - Jamboree Road	Linear	Other Asphalt	0.262	acre	N/A	N/A	
	Linear	Other Non-asphalt surfa	0.004	acre	N/A	N/A	
		Total	**0.815**				

Source:
Construction Data Form, Confirmation of acreage from MB/JC on 4/3/2026, updated by MB on 5/5

Construction Phase	CalEEMod Phase Type	Start Date	End Date	Workdays (5 days/week)	Worker Vehicles/Day	Workers Trips (In/Out)/Day	Total Debris, Soil or Concrete Amount Moved Onsite	Total Haul (or Concrete) Trips (In/Out)	Total Haul (or Concrete) Trucks/Day	Haul (or Concrete) Trips/Day (In/Out)	Days of Hauling	Vendor Truck trips/day	
Demolition	Demolition	1/3/2028	1/24/2028	16	Model defaults	Model defaults	553	112	4	8	16	2	Vendor as water truck
Asphalt Paving	Paving	1/25/2028	2/29/2028	26	Model defaults	Model defaults							
Asphalt Paving - Grading Trucks	Grading	1/25/2028	2/7/2028	10			431	88	5	10	10	2	Vendor as water truck
Asphalt Paving - Material Trucks - Asphalt	Site Prep	1/25/2028	2/7/2028	10			141	30	2	4	10		
Asphalt Paving - Material Trucks - AB	Site Prep	1/25/2028	1/26/2028	2			212	44	11	22	2		
Channel Retaining Walls	Paving	3/1/2028	6/26/2028	84	Model defaults	Model defaults							
Channel Retaining Walls - Grading Trucks	Grading	3/1/2028	3/28/2028	20			6,439	1,288	33	66	20	2	Vendor as water truck
Channel Retaining Walls - Material Trucks	Site Prep	3/1/2028	3/28/2028	20			887	186	10	10	20		
Overcrossing Retaining Wall	Site Prep	6/27/2028	10/26/2028	88	Model defaults	Model defaults							
Overcrossing Retaining Wall - Grading Trucks	Grading	6/27/2028	7/31/2028	25			1,781	130	6	12	25	2	Vendor as water truck
Overcrossing Retaining Wall - Material Trucks	Site Prep	6/27/2028	7/31/2028	25			675	148	3	6	25		
Concrete Slab Bridge	Paving	10/27/2028	2/7/2029	74	Model defaults	Model defaults							
Concrete Slab Bridge - Grading Trucks	Grading	10/27/2028	11/16/2028	15			256	52	2	4	15	2	Vendor as water truck
Concrete Slab Bridge - Material Trucks	Site Prep	10/27/2028	11/16/2028	15			885	189	7	14	15		
Prefabricated Truss Bridge	Site Prep	2/8/2029	3/23/2029	32	Model defaults	Model defaults							
Prefabricated Truss Bridge - Material Trucks	Site Prep	2/8/2029	2/8/2029	1				2	1	2	1		
Roadway Concrete Paving	Paving	3/24/2029	5/24/2029	44	Model defaults	Model defaults							
Roadway Concrete Paving - Material Trucks	Site Prep	3/24/2029	3/27/2029	2			9	2	1	2	2		
			Total Work Days	**364**									

Demolition Quantities

Hardscape	Amount	Notes/Comments
Hardscape Area - Rip Rap (ft^2)	14,670	
Rip Rap Thickness (ft)	1	
Rip Rap Hardscape Debris Volume (ft^3)	14,670	
Debris weight (lb):Volume (CY)	544.00	
Rip Rap Debris Weight (lb)	2200500	Unit weight of 150 lb/ft^3 used
Hardscape Rip Rap Debris Weight (tons)	1,100	
Hardscape Area - Sidewalk/Driveway (ft^2)	699	Includes existing sidewalk & driveway. Assumes 4" depth.
Sidewalk/Driveway Thickness (ft)	0.333	Conservative estimate
Sidewalk/Driveway Hardscape Debris Volume (ft^3)	233	
Sidewalk/Driveway Hardscape Debris Volume (CY)	9.00	
Sidewalk/Driveway Debris Weight (lb)	34915	Unit weight of 150 lb/ft^3 used
Hardscape Sidewalk/Driveway Debris Weight (tons)	4,064	
Total Debris Weight (tons)	5,164	
Total Demolition Debris (CY)	**553**	
Haul Truck Capacity (CY)	10	
Total Haul Trucks Required	56	One way truck trips
Total Haul Truck Trips (In/Out)	**112**	
Days of Hauling[1]	**16**	
Total Haul Truck Trips (In/Out) per day	8	

CIDH Piles Excavation & Concrete Calcs

Diameter (inches)	Number of Piles	Depth below EG (ft)	Excavation (ft^3)	Excvation Volume (ft^3)	Height Above EG	CIDH Concrete Below Grade (ft^3)	CIDH Concrete Below Grade (CY)	Depth above EG (ft)	CIDH Concrete Above Grade (ft^3)	CIDH Concrete Above Grade (CY)	Total
24	12	45	141	1696	0	1696	63	12	452	17	80
36	7	65	459	3216	12	3216	119	12	594	22	141
48	2	80	1005	2011	14	2011	74	12	302	11	86
		Total	**1606**	6923		6923	256		1348	50	**306**

Site Grading Quantities

Parameters	Asphalt Paving Amount	Channel Retaining Wall Amount	Overcrossing Retaining Wall Amount	Concrete Slab Bridge (CIDH Piles) Amount	Notes/Comments
Site Area (acres)[2]	0.267	-	-	-	
Site Area (ft^2)	11,614	-	-	-	
Excavation Depth (ft)	1	-	-	)H EXCAVATION TABLE ABOVE)	
Excavation Volume (ft^3)	11,614	42350	19926	6923	
Excavation Volume (Import) (CY)	**0**	0	0	0	
Material (Export) (CY)[1]	431	4,004	252	256	
Fill (CY)	-	0	486	0	
Structural Fill (Import) (CY)	-	2435	1043	-	
Total Import (CY)	**0**	**2,435**	**1,529**	**0**	
Total Export (CY)	**431**	**4,004**	**252**	**256**	
Haul Truck Capacity (CY)	10	10	10	10	
Total Haul Trucks Required	44	644	130	26	
Total Haul Truck Trips (In/Out)	**88**	**1,288**	**260**	**52**	
Days of Hauling[1]	**10**	20	25	15	
Daily Haul Amount (CY)	**44**	**201**	**11**	**18**	
Total Haul Truck Trips (In/Out) per day	10	66	12	4	

Asphalt Paving

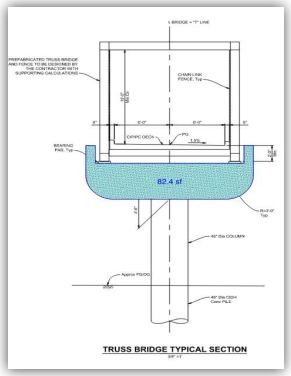
Parameters	Amount	Notes/Comments
Asphalt Site Area (acres)[2]	0.26	Assumes multi-use trail, and maitneneance access both asphalt. Assume overcrossing is concrete paving
Site Area (ft^2)	11,413	
Asphalt Depth (ft)	0.33	4" AC depth used
Total Asphalt Volume (CY)	141	
Asphalt Truck Capacity (CY)	10	
Total Trucks Required[1]	15	
Total Truck Trips (In/Out)	30	
Max Truck Trips (In/Out) per Day	4	
Days of Hauling[1]	**10**	

Aggregate Base (AB) Material

AB	Asphalt Paving	Notes/Comments
AB Site Area (acres)[2]	0.26	
AB Site Area (ft^2)	11,413	
AB Depth (ft)	0.50	
Total AB Volume (CY)	212	
DG Truck Capacity (CY)	10	
Total Trucks Required[1]	22	
Total Truck Trips	44	
Days of Hauling[1]	**2**	
Max Truck Trips (In/Out) per	22	

Channel Retaining Walls - Materials

Parameters	Amount	Notes/Comments
Reataining Wall - Wall (CY)	471	Assume 12' average height, & 1.25 wall width channel walls for calcs
Retaining Wall Footing (CY)	416	Assume average footing cross area of 13.23 SF based on avg 12' high wall
Total Concrete (CY)	887	
Haul Truck Capacity (CY) - Reataining Wall - Wall	10	
Haul Truck Capacity (CY) - Retaining Wall Footing/Abutment	10	
Haul Trucks Required - Forms, Rebar, etc.	4	
Total Haul Trucks Required	93	
Total Haul Truck Trips (In/Out)	186	
Total Haul Truck Trips (In/Out) per day	10	
Days of Hauling[1]	**20**	

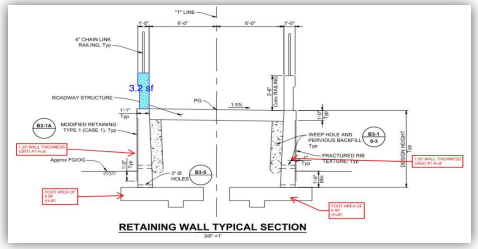


TRUSS BRIDGE TYPICAL SECTION

TRUE

Overcrossing Retaining Walls - Materials

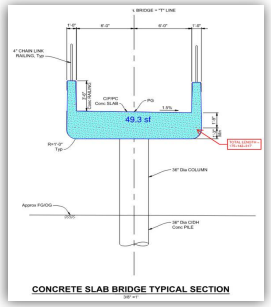
Parameters	Amount	Notes/Comments
Reataining Wall Concrete Barrier (CY)	97	Assume concrete barrier cross area of 3.2 SF
Retaining Wall - Wall (CY)	304	Assume average retaining wall height of 8'
Retaining Wall Footing (CY)	274	Assumes footing cross section area of 9 SF
Total Concrete Volume (CY)[1]	675	
Concrete Truck Capacity (CY)	10	
Haul Trucks Required - Forms, Rebar, etc.	6	
Total Concrete Trucks Required[1]	74	
Total Concrete Truck Trips (In/Out)	148	
Max Concrete Truck Trips (In/Out) per Day	6	
Days of Hauling[1]	**25**	



RETAINING WALL TYPICAL SECTION

Concrete Slab Bridge - Materials

Parameters	Amount	Notes/Comments
CIP Concrete Slab & Barriers (CY)	579	
CIP CIDH Piles (CY)	306	
Total CIP Concrete (CY)	885	
Haul Truck Capacity (CY) - CIP Concrete Slab & Barriers	10	
Haul Truck Capacity (CY) - CIP CIDH Piles	10	
Haul Trucks Required - Forms, Rebar, etc.	6	
Total Haul Trucks Required	95	
Total Haul Truck Trips (In/Out)	189	
Total Haul Truck Trips (In/Out) per day	14	
Days of Hauling[1]	**15**	



Prefabricated Truss Bridge - Materials

Parameters	Amount	Notes/Comments
Prefabricated Truss Bridge Materials (CY)	0	
Total Haul Trucks Required	1	
Total Haul Truck Trips (In/Out)	2	
Total Haul Truck Trips (In/Out) per day	2	
Days of Hauling[1]	**1**	

Roadway Concrete Paving - Materials

Parameters	Amount	Notes/Comments
Hardscape Area - Sidewalk/Driveway (ft^2)	699	Includes existing sidewalk & driveway. Assumes 4" depth.
Sidewalk/Driveway Thickness (ft)	0.333	Conservative estimate
Concrete Paving (CY)	9	
Haul Truck Capacity (CY)	10	
Total Haul Trucks Required	1	
Total Haul Truck Trips (In/Out)	2	
Total Haul Truck Trips (In/Out) per day	2	
Days of Hauling[1]	**2**	

Notes:

1 Construction data needs and data responses from client disposed 50 miles roundtrip (47.7 miles), to and from Prima Deshecha Landfill / OC

2 Waste & Recycling 25 miles/one-way trip

IBC Multi-Use Trail Barranca last updated: 5/12/2026

Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Off-Road Heavy-Duty Construction Equipment - Maximum Day

Construction Phase		CalEEMod Equipment Category	No. of Heavy-Duty Equipment	No. of hours/day	Hours of Operation/Week Per Equipment	Emissions Tier Rating or Fuel (After Mitigation if needed)	Notes/Comments
							*Diesel Equip used, Load, HP, and emission factor taken from CalEEMod 2020 Appendix D. Modeled seperately due to caleemod error where it did not calculate the emissions.
Demolition		Crushing/Processing Equip.	1	8	40	Average	
	0.815	Excavators	1	8	40	Average	
		Skid Steer Loader	1	8	40	Average	
		Concrete/Industrial Saws	2	8	40	Average	
			5				
Asphalt Paving		Cement/Mortar Mixers	2	8	40	Average	
	0.815	Pavers	1	8	40	Average	
		Paving Equipment	1	8	40	Average	
		Rollers	1	8	40	Average	
		Graders	1	8	40	Average	
		Scrapers	1	8	40	Average	
		Excavators	1	8	40	Average	
		Skid Steer Loader	1	8	40	Average	
		Plate Compactors	2	8	40	Average	
		Rubber Tired Dozers	1	8	40	Average	
		Tractors/Loaders/Backhoes	2	8	40	Average	
			14				
Channel Retaining Walls		Cement/Mortar Mixers	2	8	40	Average	
	0.262	Pumps	2	8	40	Average	
		Trenchers	2	8	40	Average	
		Plate Compactors	2	8	40	Average	
		Excavators	1	8	40	Average	
		Skid Steer Loader	1	8	40	Average	
		Tractors/Loaders/Backhoes	2	8	40	Average	
			12				
Overcrossing Retaining Wall		Cement/Mortar Mixers	2	8	40	Average	
	0.267	Pumps	2	8	40	Average	
		Trenchers	2	8	40	Average	
		Plate Compactors	2	8	40	Average	
		Excavators	1	8	40	Average	
		Skid Steer Loader	1	8	40	Average	
		Tractors/Loaders/Backhoes	2	8	40	Average	
			12				
Concrete Slab Bridge		Cement/Mortar Mixers	2	8	40	Average	
	0.267	Pumps	1	8	40	Average	
		Bore/Drill Rig	1	8	40	Average	
		Excavators	1	8	40	Average	
		Skid Steer Loader	1	8	40	Average	
		Plate Compactors	2	8	40	Average	
		Tractors/Loaders/Backhoes	2	8	40	Average	
			10				
Prefabricated Truss Bridge		Crane	1	8	40	Average	
	0.267	Welder	2	8	40	Average	
Roadway Concrete Paving		Cement/Mortar Mixers	2	8	40	Average	
	0.004	Pumps	1	8	40	Average	
		Sweepers/Scrubbers	1	8	40	Average	

A.1-2 Construction Air Quality and GHG Calculations and Modeling

IBC Multi-Use Trail Barranca Segment

Barranca Trail

Air Quality Assessment

Localized Significance Thresholds

(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 20

25 meters to Sensitive Receptor

	Screening Values			Project Site [a]
Acres	1	2	5	0.8150
Construction LSTs				
NOX	92	131	197	**84.79**
CO	647	962	1,711	**588.73**
PM10	4	7	14	**3.45**
PM2.5	3	5	9	**2.63**

Notes:

a. Project screening levels are linearly interpolated based on the 1-,2- and 5- acre screening levels.

b. Source: SCAQMD Localized Significance Thresholds, Appendix C - Mass Rate LST Look-up Tables

IBC Multi-Use Trail Barranca Segment

Overcrossing - Concrete Bridge, Truss Bridge, Retaining Walls

Air Quality Assessment

Localized Significance Thresholds

(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 20

25 meters to Sensitive Receptor

	Screening Values			Project Site [a]
Acres	1	2	5	0.2670
Construction LSTs				
NOX	92	131	197	**63.41**
CO	647	962	1,711	**416.11**
PM10	4	7	14	**1.80**
PM2.5	3	5	9	**1.53**

Notes:

a. Project screening levels are linearly interpolated based on the 1-,2- and 5- acre screening levels.

b. Source: SCAQMD Localized Significance Thresholds, Appendix C - Mass Rate LST Look-up Tables

IBC Multi-Use Trail Barranca Segment

Maintenance Access Road Improvements - Channel Retaining Walls

Air Quality Assessment

Localized Significance Thresholds

(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 20

25 meters to Sensitive Receptor

	Screening Values			Project Site [a]
Acres	1	2	5	0.2620
Construction LSTs				
NOX	92	131	197	**63.22**
CO	647	962	1,711	**414.53**
PM10	4	7	14	**1.79**
PM2.5	3	5	9	**1.52**

Notes:

a. Project screening levels are linearly interpolated based on the 1-,2- and 5- acre screening levels.

b. Source: SCAQMD Localized Significance Thresholds, Appendix C - Mass Rate LST Look-up Tables

IBC Multi-Use Trail Barranca Segment

Jamboree Road

Air Quality Assessment

Localized Significance Thresholds

(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 20

25 meters to Sensitive Receptor

	Screening Values			Project Site [a]
Acres	1	2	5	0.0040
Construction LSTs				
NOX	92	131	197	**53.16**
CO	647	962	1,711	**333.26**
PM10	4	7	14	**1.01**
PM2.5	3	5	9	**1.01**

Notes:

a. Project screening levels are linearly interpolated based on the 1-,2- and 5- acre screening levels.

b. Source: SCAQMD Localized Significance Thresholds, Appendix C - Mass Rate LST Look-up Tables

IBC Multi-Use Trail Barranca Segment
Air Quality Construction Analysis
Unmitigated

Regional Maximums Source	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10 lb/day	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Barranca Trail - Demolition-2028	0.91	7.74	11.31	0.02	0.21	3.44	3.65	0.20	0.56	0.76
Barranca Trail - Asphalt Paving-2028	2.92	27.22	31.24	0.08	0.99	3.42	4.41	0.92	1.26	2.18
Maintenance Access Road - Channel Retaining Walls-2028	1.16	15.87	15.43	0.06	0.35	0.66	1.01	0.33	0.21	0.54
Overcrossing - Retaining Wall-2028	1.41	12.51	17.10	0.03	0.41	1.01	1.42	0.38	0.24	0.62
Overcrossing - Concrete Slab Bridge-2028	1.00	10.46	14.73	0.03	0.30	0.76	1.06	0.28	0.20	0.47
Overcrossing - Concrete Slab Bridge-2029	0.97	8.59	13.93	0.02	0.26	0.36	0.62	0.24	0.08	0.33
Overcrossing - Prefab Truss Bridge-2029	0.65	5.41	6.61	0.02	0.16	0.15	0.31	0.15	0.04	0.18
Jamboree Road - Roadway Concrete Paving-2029	0.37	2.69	2.90	0.01	0.09	0.18	0.27	0.09	0.04	0.13
Project Daily Maximum Emissions	**2.92**	**27.22**	**31.24**	**0.08**	**0.99**	**3.44**	**4.41**	**0.92**	**1.26**	**2.18**
Threshold	**75.0**	**100.0**	**550.0**	**150.0**	**None**	**None**	**150.0**	**None**	**None**	**55.0**
Exceed Threshold (Y/N)?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Localized Maximum Source	ROG lb/day	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Barranca Trail - Demolition-2028	0.86	7.07	10.47	0.02	0.20	3.10	3.30	0.19	0.47	0.66
Barranca Trail - Asphalt Paving-2028	2.78	23.61	28.30	0.05	0.95	2.12	3.07	0.88	0.92	1.80
Project Daily Maximum Emissions	**2.78**	**23.61**	**28.30**	**0.05**	**0.95**	**3.10**	**3.30**	**0.88**	**0.92**	**1.80**
Threshold		**84.8**	**588.7**				**3.4**			**2.6**
Exceed Threshold (Y/N)?		**No**	**No**				**No**			**No**

Maintenance Access Road - Channel Retaining Walls-2028	1.00	8.47	11.09	0.02	0.27	0.00	0.27	0.25	0.00	0.25
Project Daily Maximum Emissions	**1.00**	**8.47**	**11.09**	**0.02**	**0.27**	**0.00**	**0.27**	**0.25**	**0.00**	**0.25**
Threshold		**63.2**	**414.5**				**1.8**			**1.5**
Exceed Threshold (Y/N)?		**No**	**No**				**No**			**No**

Overcrossing - Retaining Wall-2028	1.29	10.70	14.75	0.02	0.39	0.14	0.53	0.36	0.01	0.38
Overcrossing - Concrete Slab Bridge-2028	0.91	8.60	12.92	0.02	0.28	0.00	0.28	0.26	0.00	0.26
Overcrossing - Concrete Slab Bridge-2029	0.90	8.46	12.92	0.02	0.26	0.00	0.26	0.24	0.00	0.24
Overcrossing - Prefab Truss Bridge-2029	0.62	5.20	6.23	0.01	0.16	0.00	0.16	0.14	0.00	0.14
Project Daily Maximum Emissions	**1.29**	**10.70**	**14.75**	**0.02**	**0.39**	**0.14**	**0.53**	**0.36**	**0.01**	**0.38**
Threshold		**63.4**	**416.1**				**1.8**			**1.5**
Exceed Threshold (Y/N)?		**No**	**No**				**No**			**No**

Jamboree Road - Roadway Concrete Paving-2029	0.34	2.48	2.45	0.00	0.09	0.00	0.09	0.08	0.00	0.08
Project Daily Maximum Emissions	**0.34**	**2.48**	**2.45**	**0.00**	**0.09**	**0.00**	**0.09**	**0.08**	**0.00**	**0.08**
Threshold		**53.2**	**333.3**				**1.0**			**1.0**
Exceed Threshold (Y/N)?		**No**	**No**				**No**			**No**

IBC Multi-Use Trail Barranca Segment

Air Quality Construction Analysis

Unmitigated

Summer	Onsite Emissions										Offsite Emissions									
Source	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
	lb/day										lb/day									
Barranca Trail - Demolition-2028	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	0.00	0.00	0.00	0.00	0.00	0.00
Barranca Trail - Asphalt Paving-2028	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	0.00	0.00	0.00	0.00	0.00	0.00
Maintenance Access Road - Channel Retaining Walls-2028	1.00	8.47	11.09	0.02	0.27	1.05E-03	0.27	0.25	1.59E-04	0.25	0.08	0.14	1.43	4.50E-04	4.50E-04	0.03	0.03	4.50E-04	1.35E-03	0.00
Overcrossing - Retaining Wall-2028	1.29	10.70	14.75	0.02	0.39	0.14	0.53	0.36	0.01	0.38	0.12	1.80	2.34	0.01	0.02	0.87	0.89	0.02	0.22	0.24
Overcrossing - Concrete Slab Bridge-2028	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	0.00	0.00	0.00	0.00	0.00	0.00
Overcrossing - Concrete Slab Bridge-2029	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	0.00	0.00	0.00	0.00	0.00	0.00
Overcrossing - Prefab Truss Bridge-2029	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	0.00	0.00	0.00	0.00	0.00	0.00
Jamboree Road - Roadway Concrete Paving-2029	0.34	2.48	2.45	4.44E-03	0.09	0.00	0.09	0.08	0.00	0.08	0.03	0.03	0.44	0.00	0.00	0.13	0.13	0.00	0.03	0.03

Regional Emissions	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Barranca Trail - Demolition-2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barranca Trail - Asphalt Paving-2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maintenance Access Road - Channel Retaining Walls-2028	1.08	8.61	12.52	0.02	0.27	0.03	0.30	0.25	1.51E-03	0.25
Overcrossing - Retaining Wall-2028	1.41	12.51	17.10	0.03	0.41	1.01	1.42	0.38	0.24	0.62
Overcrossing - Concrete Slab Bridge-2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overcrossing - Concrete Slab Bridge-2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overcrossing - Prefab Truss Bridge-2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jamboree Road - Roadway Concrete Paving-2029	0.36	2.51	2.89	0.00	0.09	0.13	0.22	0.08	0.03	0.12
Project Daily Maximum Emissions	**1.41**	**12.51**	**17.10**	**0.03**	**0.41**	**1.01**	**1.42**	**0.38**	**0.24**	**0.62**

IBC Multi-Use Trail Barranca Segment

Air Quality Construction Analysis

Unmitigated

Winter	Onsite Emissions										Offsite Emissions									
Source	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
	lb/day										lb/day									
Barranca Trail - Demolition-2028	0.86	7.07	10.47	0.02	0.20	3.10	3.30	0.19	0.47	0.66	0.05	0.68	0.84	3.89E-03	0.01	0.34	0.34	0.01	0.09	0.09
Barranca Trail - Asphalt Paving-2028	2.78	23.61	28.30	0.05	0.95	2.12	3.07	0.88	0.92	1.80	0.14	3.60	2.94	0.02	0.04	1.30	1.34	0.04	0.34	0.38
Maintenance Access Road - Channel Retaining Walls-2028	1.00	8.47	11.09	0.02	0.27	1.05E-03	0.27	0.25	1.59E-04	0.25	0.16	7.40	4.34	0.04	0.08	0.65	0.74	0.08	0.21	0.29
Overcrossing - Retaining Wall-2028	1.29	10.70	14.75	0.02	0.39	0.14	0.53	0.36	0.01	0.38	0.09	0.16	1.39	4.50E-04	4.50E-04	0.46	0.46	4.50E-04	0.11	0.11
Overcrossing - Concrete Slab Bridge-2028	0.91	8.60	12.92	0.02	0.28	4.74E-05	0.28	0.26	7.18E-06	0.26	0.09	1.86	1.81	0.01	0.02	0.76	0.78	0.02	0.20	0.22
Overcrossing - Concrete Slab Bridge-2029	0.90	8.46	12.92	0.02	0.26	4.74E-05	0.26	0.24	7.18E-06	0.24	0.07	0.13	1.01	4.50E-04	4.50E-04	0.36	0.36	4.50E-04	0.08	0.08
Overcrossing - Prefab Truss Bridge-2029	0.62	5.20	6.23	0.01	0.16	0.00	0.16	0.14	0.00	0.14	0.02	0.20	0.38	1.15E-03	2.20E-03	0.15	0.15	2.20E-03	0.04	0.04
Jamboree Road - Roadway Concrete Paving-2029	0.34	2.48	2.45	4.44E-03	0.09	0.00	0.09	0.08	0.00	0.08	0.03	0.21	0.45	1.15E-03	2.20E-03	0.18	0.18	2.20E-03	0.04	0.05

Regional Emissions	ROG	NOX	CO	SO2	Exhaust PM10	Fugitive PM10	Total PM10	Exhaust PM2.5	Fugitive PM2.5	Total PM2.5
Barranca Trail - Demolition-2028	0.91	7.74	11.31	0.02	0.21	3.44	3.65	0.20	0.56	0.76
Barranca Trail - Asphalt Paving-2028	2.92	27.22	31.24	0.08	0.99	3.42	4.41	0.92	1.26	2.18
Maintenance Access Road - Channel Retaining Walls-2028	1.16	15.87	15.43	0.06	0.35	0.66	1.01	0.33	0.21	0.54
Overcrossing - Retaining Wall-2028	1.38	10.87	16.14	0.02	0.39	0.60	0.99	0.36	0.12	0.49
Overcrossing - Concrete Slab Bridge-2028	1.00	10.46	14.73	0.03	0.30	0.76	1.06	0.28	0.20	0.47
Overcrossing - Concrete Slab Bridge-2029	0.97	8.59	13.93	0.02	0.26	0.36	0.62	0.24	0.08	0.33
Overcrossing - Prefab Truss Bridge-2029	0.65	5.41	6.61	0.02	0.16	0.15	0.31	0.15	0.04	0.18
Jamboree Road - Roadway Concrete Paving-2029	0.37	2.69	2.90	0.01	0.09	0.18	0.27	0.09	0.04	0.13
Project Daily Maximum Emissions	**2.92**	**27.22**	**31.24**	**0.08**	**0.99**	**3.44**	**4.41**	**0.92**	**1.26**	**2.18**

IBC Multi-Use Trail Barranca Segment

Construction Annual GHG

	Metric Tons/Year		
Year	**CalEEMod**	**Water + Construction Office**	**Total**
2028	417.3	10.2	427
2029	61.3	3.9	65
Total	**478.6**	14.1	**493**
Amortized - 30 years	**16.0**	**0.5**	**16**

IBC Multi-Use Trail Barranca Segment
Construction GHG
Construction Water Energy Estimates

Source	Acreage/Day	Number of Days	Total Construction Water Use (Mgal)	Electricity Demand from Water Conveyance (MWh)	Annual Electricity Demand from Water Conveyance (MWh)
Demolition	0.815	23	0.056	0.4	0.3
Asphalt Paving - Grading Trucks	0.815	19	0.046	0.3	0.2
Channel Retaining Walls - Gradi	0.262	84	0.066	0.4	0.3
Overcrossing Retaining Wall - Gr	0.267	88	0.070	0.5	0.3
Concrete Slab Bridge - Grading T	0.267	74	0.059	0.4	0.3
Total			**0.298**	**2.0**	**1.5**

Electricity Emission Factor (MT CO2/MWh)	Electricity Emission Factor (lbs CO2/MWh)	Total GHG Emissions Per
2.41E-01	531.98	0.35
(MT CH4/MWh)	**(lbs CH4/MWh)**	
1.50E-05	0.033	
(MT N2O/MWh)	**(lbs N2O/MWh)**	
1.81E-06	0.004	

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)
	3044	725	1537	1501

Sources and Assumptions:

CalEEMod Appendix G, Table G-32

-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).

IBC Multi-Use Trail Barranca Segment
Construction GHG Analysis

Temporary Construction Trailer - Electricity

Land Use	Square Feet	Energy Use per year (kWh)	Total Energy Use (kWh)	Energy Use per SF
General Office	2,000	40,936	46,880.36	20.5
Note: Energy use per sf is derived from CalEEMod User Guide, Appendix G, Table G-28 for the Statewide average for General Office Building land use				

Electricity Emission Factor	Electricity Emission Factor	Total GHG Emissions Per Year	Year	Proportion of Year Worked	GHG Emissions Per Construction Year
(MT CO2/MWh)	**(lbs CO2/MWh)**	9.92	2028	1.00	9.89
2.41E-01	531.98		2029	0.39	3.90
(MT CH4/MWh)	**(lbs CH4/MWh)**				
1.50E-05	0.033				
(MT N2O/MWh)	**(lbs N2O/MWh)**				
1.81E-06	0.004				

1. Basic Project Information

1.1 Basic Project Information

Data Field	Value
Project Name	IBC Barranca - 1 (Barranca Trail)
Construction Start Date	1/3/2028
Lead Agency	
Land Use Scale	
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	19.6
Location	33.68130786568295, -117.83660227656074
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.43

1. Basic Project Information

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Asphalt Surfaces	0.282	Acre	0.282	0	0	0		Barranca Trail
Other Non-Asphalt Surfaces	0.267	Acre	0.267	0	0	0		
Other Asphalt Surfaces	0.262	Acre	0.262	0	0	0		
Other Non-Asphalt Surfaces	0.004	Acre	0.004	0	0	0		

2. Emissions Summary

2.1 Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Winter (Max)																		
Unmit.	3.6823659	2.9169880	27.219270	31.242435	0.0752256	0.9933031	3.4389865	4.4129403	0.9170495	1.2636922	2.1807418		9177.9103	9177.9103	0.4472683	0.5379620	0.1745726	9349.579348442345
Average Daily (Max)																		
Unmit.	0.3490247	0.2079020	1.7753670	2.2877188	0.0044404	0.0632164	0.3630497	0.4262661	0.0588010	0.0919320	0.1507330		508.50422	508.50422	0.0224702	0.0165636	0.1058690	514.1078140860063
Annual (Max)																		
Unmit.	0.0636970	0.0379421	0.3240044	0.4175086	0.0008103	0.0115369	0.0662565	0.0777935	0.0107311	0.0167775	0.0275087		84.188676	84.188676	0.0037202	0.0027423	0.0175278	85.11641559152702

2.2. Construction Emissions by Year

2.2.1 Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
Daily - Winter (Max)																		
2028	3.6823659	2.9169880	27.219270	31.242435	0.0752256	0.9933031	3.4389865	4.4129403	0.9170495	1.2636922	2.1807418		9177.9103	9177.9103	0.4472683	0.5379620	0.1745726	9349.579348442345
Average Daily																		
2028	0.3490247	0.2079020	1.7753670	2.2877188	0.0044404	0.0632164	0.3630497	0.4262661	0.0588010	0.0919320	0.1507330		508.50422	508.50422	0.0224702	0.0165636	0.1058690	514.1078140860063
Annual																		
2028	0.0636970	0.0379421	0.3240044	0.4175086	0.0008103	0.0115369	0.0662565	0.0777935	0.0107311	0.0167775	0.0275087		84.188676	84.188676	0.0037202	0.0027423	0.0175278	85.11641559152702

2.2. Construction Emissions by Year

2.2.2 Onsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
Daily - Winter (Max)																		
2028	3.2962836	2.7788376	23.614880	28.299925	0.0541406	0.9531702	3.1031385	3.3027004	0.8769166	0.9202509	1.7971676		5745.6130	5745.6130	0.2330671	0.0466134	0	5765.330506374738
Average Daily																		
2028	0.3330350	0.1991556	1.6746839	2.1329753	0.0038830	0.0621922	0.3057669	0.3679591	0.0577768	0.0775138	0.1352906		396.08264	396.08264	0.0166524	0.0028736	0	397.355306383612
Annual																		
2028	0.0607788	0.0363459	0.3056298	0.3892679	0.0007086	0.0113500	0.0558024	0.0671525	0.0105442	0.0141462	0.0246905		65.576002	65.576002	0.0027570	0.0004757	0	65.7867055683149

2.2. Construction Emissions by Year

2.2.3 Offsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
Daily - Winter (Max)																		
2028	0.3860823	0.1381504	3.6043904	2.9425098	0.0210850	0.0401329	1.3021236	1.3422566	0.0401329	0.3434412	0.3835742		3432.2973	3432.2973	0.2142011	0.4913486	0.1745726	3584.2488420676063
Average Daily																		
2028	0.0159897	0.0087463	0.1006830	0.1547434	0.0005574	0.0010242	0.0572827	0.0583069	0.0010242	0.0144181	0.0154423		112.42157	112.42157	0.0058177	0.0136900	0.1058690	116.75250770239418
Annual																		
2028	0.0029181	0.0015962	0.0183746	0.0282406	0.0001017	0.0001869	0.0104541	0.0106410	0.0001869	0.0026313	0.0028182		18.612674	18.612674	0.0009632	0.0022665	0.0175278	19.329710023212108

3.1. Demolition (2028)

3.1.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road E	2.5621039	0.8649521	7.0685615	10.471191	0.0168969	0.1995618		0.1995618	0.1924838		0.1924838		1539.2834	1539.2834	0.0717331	0.0070967		1543.1916177781895
Demolition							3.1031385	3.1031385		0.4699038	0.4699038							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road E	0.1614476	0.0545038	0.4454162	0.6598284	0.0010647	0.0125751		0.0125751	0.0121291		0.0121291		96.995943	96.995943	0.0045201	0.0004471		97.24221153122838
Demolition							0.1955402	0.1955402		0.0296103	0.0296103							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road E	0.0294641	0.0099469	0.0812884	0.1204186	0.0001943	0.0022949		0.0022949	0.0022135		0.0022135		16.058785	16.058785	0.0007483	0.0000740		16.099557841668116
Demolition							0.0356860	0.0356860		0.0054038	0.0054038							
Onsite truc	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.1. Demolition (2028)

3.1.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.0450624	0.0384265	0.0422846	0.5609662	0	0	0.1829931	0.1829931	0	0.0428933	0.0428933		167.54665	167.54665	0.0021605	0.0066359	0.0131460	169.59131475610286
Vendor	0.0043298	0.0012434	0.0614736	0.0301592	0.0004497	0.0004497	0.0171118	0.0175615	0.0004497	0.0047276	0.0051774		60.175561	60.175561	0.0030864	0.0084040	0.0034407	62.760562928670716
Hauling	0.0443129	0.0063493	0.5723641	0.2449776	0.0034392	0.0066138	0.1357430	0.1423568	0.0066138	0.0380694	0.0446832		490.21458	490.21458	0.0342598	0.0776468	0.0228879	514.232721151493
Average Daily																		
Worker	0.0028590	0.0024408	0.0026645	0.0369530	0	0	0.0113859	0.0113859	0	0.0026665	0.0026665		10.702045	10.702045	0.0001361	0.0004181	0.0138406	10.843899477100653
Vendor	0.0002756	0.0000811	0.0038742	0.0018782	0.0000283	0.0000283	0.0010668	0.0010951	0.0000283	0.0002950	0.0003233		3.7906622	3.7906622	0.0001944	0.0005295	0.0036068	3.956942698829554
Hauling	0.0028089	0.0004167	0.0365502	0.0153702	0.0002167	0.0004167	0.0084696	0.0088863	0.0004167	0.0023778	0.0027946		30.884532	30.884532	0.0021588	0.0048928	0.0240177	32.42057981272748
Annual																		
Worker	0.0005217	0.0004454	0.0004862	0.0067439	0	0	0.0020779	0.0020779	0	0.0004866	0.0004866		1.7718457	1.7718457	0.0000225	0.0000692	0.0022914	1.7953313084076794
Vendor	0.0000503	0.0000148	0.0007070	0.0003427	0.0000051	0.0000051	0.0001946	0.0001998	0.0000051	0.0000538	0.0000590		0.6275873	0.6275873	0.0000322	0.0000876	0.0005971	0.6551170201997565
Hauling	0.0005126	0.0000760	0.0066704	0.0028050	0.0000395	0.0000760	0.0015457	0.0016217	0.0000760	0.0004339	0.0005100		5.1132868	5.1132868	0.0003574	0.0008100	0.0039764	5.367596969838581

3.2. Asphalt Paving - Material Trucks Asphalt (2028)

3.2.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2. Asphalt Paving - Material Trucks Asphalt (2028)

3.2.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0295419	0.0042328	0.3815760	0.1633184	0.0022928	0.0044092	0.0904953	0.0949045	0.0044092	0.0253796	0.0297888		326.80972	326.80972	0.0228398	0.0517645	0.0152586	342.82181410099537
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0008142	0.0001208	0.0105942	0.0044551	0.0000628	0.0001208	0.0024549	0.0025757	0.0001208	0.0006892	0.0008100		8.9520385	8.9520385	0.0006257	0.0014182	0.0069616	9.397269510935503
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0001485	0.0000220	0.0019334	0.0008130	0.0000114	0.0000220	0.0004480	0.0004700	0.0000220	0.0001257	0.0001478		1.4821121	1.4821121	0.0001036	0.0002348	0.0011525	1.555825208648864

3.3. Asphalt Paving - Material Trucks AB (2028)

3.3.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3. Asphalt Paving - Material Trucks AB (2028)

3.3.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.1624806	0.0232808	2.0986684	0.8982514	0.0126104	0.0242508	0.4977243	0.5219751	0.0242508	0.1395878	0.1638387		1797.4534	1797.4534	0.1256193	0.2847049	0.0839224	1885.5199775554745
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0008956	0.0001328	0.0116536	0.0049006	0.0000690	0.0001328	0.0027004	0.0028333	0.0001328	0.0007581	0.0008910		9.8472423	9.8472423	0.0006883	0.0015600	0.0076578	10.336996462029054
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0001634	0.0000242	0.0021267	0.0008943	0.0000126	0.0000242	0.0004928	0.0005170	0.0000242	0.0001383	0.0001626		1.6303233	1.6303233	0.0001139	0.0002582	0.0012678	1.7114077295137504

3.4. Asphalt Paving - Grading Trucks (2028)

3.4.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.4. Asphalt Paving - Grading Trucks (2028)

3.4.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0738548	0.0105821	0.9539402	0.4082961	0.0057320	0.0110231	0.2262383	0.2372614	0.0110231	0.0634490	0.0744721		817.02431	817.02431	0.0570997	0.1294113	0.0381465	857.0545352524883
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0020355	0.0003020	0.0264856	0.0111378	0.0001570	0.0003020	0.0061373	0.0064394	0.0003020	0.0017231	0.0020251		22.380096	22.380096	0.0015643	0.0035455	0.0174041	23.493173777338757
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0003714	0.0000551	0.0048336	0.0020326	0.0000286	0.0000551	0.0011200	0.0011751	0.0000551	0.0003144	0.0003695		3.7052803	3.7052803	0.0002590	0.0005870	0.0028814	3.88956302162216

3.5. Asphalt Paving (2028)

3.5.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road Equipment	3.2212689	2.7038228	23.614880	28.299925	0.0541406	0.9531702		0.9531702	0.8769166		0.8769166		5745.6130	5745.6130	0.2330671	0.0466134		5765.330506374738
Dust From Material Movement							2.1175135	2.1175135		0.9202509	0.9202509							
Paving	0.0750147	0.0750147																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.1676824	0.1407469	1.2292677	1.4731468	0.0028182	0.0496170		0.0496170	0.0456477		0.0456477		299.08670	299.08670	0.0121322	0.0024264		300.1130948523836
Dust From Material Movement							0.1102267	0.1102267		0.0479034	0.0479034							
Paving	0.0039048	0.0039048																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.0306020	0.0256863	0.2243413	0.2688492	0.0005143	0.0090551		0.0090551	0.0083307		0.0083307		49.517217	49.517217	0.0020086	0.0004017		49.68714772664678
Dust From Material Movement							0.0201163	0.0201163		0.0087423	0.0087423							
Paving	0.0007126	0.0007126																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.5. Asphalt Paving (2028)

3.5.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.1158749	0.0988111	0.1087319	1.4424845	0	0	0.4705538	0.4705538	0	0.1102970	0.1102970		430.83425	430.83425	0.0055556	0.0170637	0.0338041	436.09195222997863
Vendor	0.0043298	0.0012434	0.0614736	0.0301592	0.0004497	0.0004497	0.0171118	0.0175615	0.0004497	0.0047276	0.0051774		60.175561	60.175561	0.0030864	0.0084040	0.0034407	62.760562928670716
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.0060731	0.0051849	0.0056600	0.0784966	0	0	0.0241862	0.0241862	0	0.0056644	0.0056644		22.733537	22.733537	0.0002891	0.0008882	0.0294006	23.034867212226228
Vendor	0.0002276	0.0000670	0.0032004	0.0015515	0.0000234	0.0000234	0.0008813	0.0009047	0.0000234	0.0002437	0.0002671		3.1314166	3.1314166	0.0001606	0.0004374	0.0029795	3.268778751207023
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.0011083	0.0009462	0.0010329	0.0143256	0	0	0.0044139	0.0044139	0	0.0010337	0.0010337		3.7637965	3.7637965	0.0000478	0.0001470	0.0048676	3.813685139598921
Vendor	0.0000415	0.0000122	0.0005840	0.0002831	0.0000042	0.0000042	0.0001608	0.0001651	0.0000042	0.0000444	0.0000487		0.5184417	0.5184417	0.0000266	0.0000724	0.0004932	0.5411836253824076
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1 Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetation	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.2 Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.3 Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Daily, Winter (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Annual																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		

5. Activity Data

5.1 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per W	Work Days	Phase Description
Demolition	Demolition	1/3/2028	2/2/2028	5	23	
Asphalt Paving - Material Trucks Asphalt	Site Preparation	2/3/2028	2/16/2028	5	10	
Asphalt Paving - Material Trucks AB	Site Preparation	2/3/2028	2/4/2028	5	2	
Asphalt Paving - Grading Trucks	Grading	2/3/2028	2/16/2028	5	10	
Asphalt Paving	Paving	2/3/2028	2/29/2028	5	19	

5.2. Off-Road Equipment

5.2.1 Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Average	1	8	36	0.38
Demolition	Skid Steer Loaders	Diesel	Average	1	8	71	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	2	8	33	0.73
Demolition	Crushing/Proc. Equipment	Diesel	Average	1	8	85	0.78
Asphalt Paving	Cement and Mortar Mixers	Diesel	Average	2	8	10	0.56
Asphalt Paving	Pavers	Diesel	Average	1	8	81	0.42
Asphalt Paving	Paving Equipment	Diesel	Average	1	8	89	0.36
Asphalt Paving	Rollers	Diesel	Average	1	8	36	0.38
Asphalt Paving	Graders	Diesel	Average	1	8	148	0.41
Asphalt Paving	Scrapers	Diesel	Average	1	8	423	0.48
Asphalt Paving	Excavators	Diesel	Average	1	8	36	0.38
Asphalt Paving	Skid Steer Loaders	Diesel	Average	1	8	71	0.37
Asphalt Paving	Plate Compactors	Diesel	Average	2	8	8	0.43
Asphalt Paving	Rubber Tired Dozers	Diesel	Average	1	8	367	0.4
Asphalt Paving	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37

5.3. Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	14	18.5	LDA,LDT1,LDT2
Demolition	Vendor	2	10.2	HHDT,MHDT
Demolition	Hauling	6	25	HHDT
Demolition	Onsite truck			HHDT
Asphalt Paving - Material Trucks Asphalt	Worker	0	18.5	LDA,LDT1,LDT2
Asphalt Paving - Material Trucks Asphalt	Vendor		10.2	HHDT,MHDT
Asphalt Paving - Material Trucks Asphalt	Hauling	4	25	HHDT
Asphalt Paving - Material Trucks Asphalt	Onsite truck			HHDT
Asphalt Paving - Material Trucks AB	Worker	0	18.5	LDA,LDT1,LDT2
Asphalt Paving - Material Trucks AB	Vendor		10.2	HHDT,MHDT
Asphalt Paving - Material Trucks AB	Hauling	22	25	HHDT
Asphalt Paving - Material Trucks AB	Onsite truck			HHDT
Asphalt Paving - Grading Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Asphalt Paving - Grading Trucks	Vendor	0	10.2	HHDT,MHDT
Asphalt Paving - Grading Trucks	Hauling	10	25	HHDT
Asphalt Paving - Grading Trucks	Onsite truck			HHDT
Asphalt Paving	Worker	36	18.5	LDA,LDT1,LDT2
Asphalt Paving	Vendor	2	10.2	HHDT,MHDT
Asphalt Paving	Hauling	0	25	HHDT
Asphalt Paving	Onsite truck			HHDT

5.6. Dust Mitigation

5.6.1 Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0	0	0	5164	0
Asphalt Paving - Material Trucks Asphalt	0	0	0	0	0
Asphalt Paving - Material Trucks AB	0	0	0	0	0
Asphalt Paving - Grading Trucks	0	0	0	0	0
Asphalt Paving	0	431	52	0	0.815

5.6. Dust Mitigation

5.6.2 Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74	74
Water Demolished Area	2	36	36

5. Activity Data

5.7 Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Asphalt Paving	Other Asphalt Surfaces	0.282	100
Asphalt Paving	Other Non-Asphalt Surfaces	0.267	0
Asphalt Paving	Other Asphalt Surfaces	0.262	100
Asphalt Paving	Other Non-Asphalt Surfaces	0.004	0

5. Activity Data

5.8 Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2028	0	531.983	0.033	0.004000000189989805

5.18.1. Land Use Change

5.18.1.1 Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1 Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1 Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1 Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (

Climate Hazard	Result for Project Location
Temperature and Extreme H	9.54
Extreme Precipitation	3.6
Sea Level Rise	
Wildfire	0

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Unit
annual days of extreme heat
annual days with precipitation above 20 mm
meters of inundation depth
annual hectares burned

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are:

No rise,
0.5 meter,
1.0 meter,
1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are:
Warmer/drier (HadGEM2-ES),
Cooler/wetter (CNRM-CM5),
Average conditions (CanESM2),
Range of different rainfall and temperature possibilities (MIROC5).
Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6. Climate Risk Detailed Report

6.2 Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score
Temperature and Extreme H	1	0
Extreme Precipitation	N/A	N/A
Sea Level Rise	1	0
Wildfire	1	0
Flooding	N/A	N/A
Drought	N/A	N/A
Snowpack Reduction	N/A	N/A
Air Quality Degradation	0	0

The sensitivity score reflects The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt. The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessmen

6. Climate Risk Detailed Report

6.3 Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score
Temperature and Extreme H	1	1
Extreme Precipitation	N/A	N/A
Sea Level Rise	1	1
Wildfire	1	1
Flooding	N/A	N/A
Drought	N/A	N/A
Snowpack Reduction	N/A	N/A
Air Quality Degradation	1	1

The sensitivity score reflects

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessmen

7. Health and Equity Details

7.1 CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	58.2327318
AQ-PM	68.6869944
AQ-DPM	84.23148724
Drinking Water	53.19095791
Lead Risk Housing	28.73345936
Pesticides	11.82758621
Toxic Releases	91.38534634
Traffic	88.9375
Effect Indicators	
CleanUp Sites	97.25643897
Groundwater	99.02042172
Haz Waste Facilities/Generat	98.38517538
Impaired Water Bodies	82.96934061
Solid Waste	97.70904926
Sensitive Population	
Asthma	16.96161515
Cardio-vascular	20.77517448
Low Birth Weights	54.84988453
Socioeconomic Factor Indicators	
Education	49.19007846
Housing	39.20152091
Linguistic	59.37203952
Poverty	55.50251256
Unemployment	5.570015617

7. Health and Equity Details

7.2 Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	
Auto Access	57.21801617
Active commuting	69.0619787
Social	
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe h	97.88271526
Low-inc renter severe housin	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	
Insured adults	50.3143847
Arthritis	99
Asthma ER Admissions	83
High Blood Pressure	99
Cancer (excluding skin)	96
Asthma	66
Coronary Heart Disease	99
Chronic Obstructive Pulmona	95
Diagnosed Diabetes	99
Life Expectancy at Birth	99
Cognitively Disabled	52
Physically Disabled	82
Heart Attack ER Admissions	76
Mental Health Not Good	59
Chronic Kidney Disease	99
Obesity	95
Pedestrian Injuries	73
Physical Health Not Good	93
Stroke	98
Health Risk Behaviors	
Binge Drinking	4
Current Smoker	42
No Leisure Time for Physical A	69
Climate Change Exposures	
Wildfire Risk	0
SLR Inundation Area	0
Children	25
Elderly	83
English Speaking	50
Foreign-born	81
Outdoor Workers	61
Climate Change Adaptive Capacity	
Impervious Surface Cover	18
Traffic Density	93
Traffic Access	65
Other Indices	
Hardship	53
Other Decision Support	
2016 Voting	59

7. Health and Equity Details

7.3 Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64
Healthy Places Index Score for Project Location (b)	56
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

8. User Changes to Default Data

8.1 Justifications

Screen	Justification
Construction: Construction Phases	see assumptions sheet
Construction: Off-Road Equipment	see assumptions sheet
Construction: Off-Road Equipment EF	Diesel Equip used, Load, HP, and emission factor taken from CalEEMod 2020 Appendix D.
Construction: Dust From Material Movement	see assumptions
Construction: Trips and VMT	See assumptions sheet

8.4. Construction

8.4.1 Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	1/24/2028	2/2/2028
Demolition	Demolition	Work Days per Phase	16	23
Grading	Asphalt Paving - Grading Trucks	Start Date	1/25/2028	2/3/2028
Grading	Asphalt Paving - Grading Trucks	End Date	2/29/2028	2/16/2028
Grading	Asphalt Paving - Grading Trucks	Work Days per Phase	26	10
Paving	Asphalt Paving	Start Date	1/25/2028	2/3/2028
Paving	Asphalt Paving	End Date	2/7/2028	2/29/2028
Paving	Asphalt Paving	Work Days per Phase	10	19

8.4. Construction

8.4.6 Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Demolition	Worker	One-Way Trips per Day	12.5	14
Demolition	Hauling	One-Way Trips per Day	56.130434782608695	6
Demolition	Hauling	Miles per Trip	20	25
Asphalt Paving - Material Trucks Asphalt	Hauling	One-Way Trips per Day	0	4
Asphalt Paving - Material Trucks Asphalt	Hauling	Miles per Trip	20	25
Asphalt Paving - Material Trucks AB	Hauling	One-Way Trips per Day	0	22
Asphalt Paving - Material Trucks AB	Hauling	Miles per Trip	20	25
Asphalt Paving - Grading Trucks	Hauling	One-Way Trips per Day	0	10
Asphalt Paving - Grading Trucks	Hauling	Miles per Trip	20	25
Asphalt Paving	Worker	One-Way Trips per Day	35	36
Asphalt Paving	Hauling	One-Way Trips per Day	2.8421052631578947	0
Asphalt Paving	Hauling	Miles per Trip	20	25

1. Basic Project Information

1.1 Basic Project Information

Data Field	Value
Project Name	IBC Barranca - 2 (Maintenance Access Road)
Construction Start Date	1/3/2028
Lead Agency	
Land Use Scale	
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	19.6
Location	33.68130786568295, -117.83660227656074
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.43

1. Basic Project Information

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Asphalt Surfaces	0.262	Acre	0.262	0	0	0		Barranca Trail

2. Emissions Summary

2.1 Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Unmit.	1.2927249	1.0807584	8.6078389	12.522695	0.0183096	0.2710581	0.0291200	0.3001781	0.2494094	0.0015083	0.2509177		2164.5985	2164.5985	0.0770749	0.0244010	1.2207979	2175.01772881414
Daily, Winter (Max)																		
Unmit.	1.8532722	1.1605217	15.873935	15.428983	0.0618729	0.3548337	0.6554973	1.0103311	0.3331851	0.2104624	0.5436475		8355.8248	8355.8248	0.5117383	1.0201629	0.3215249	8672.948386455184
Average Daily (Max)																		
Unmit.	0.3284332	0.2533230	2.3872833	3.0184247	0.0066007	0.0669709	0.0409018	0.1078727	0.0619887	0.0117662	0.0737549		835.27763	835.27763	0.0416786	0.0623233	0.3860339	855.2779851600693
Annual (Max)																		
Unmit.	0.0599390	0.0462314	0.4356792	0.5508625	0.0012046	0.0122221	0.0074645	0.0196867	0.0113129	0.0021473	0.0134602		138.28974	138.28974	0.0069003	0.0103183	0.0639123	141.6010308277278

2.2. Construction Emissions by Year

2.2.1 Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	1.2927249	1.0807584	8.6078389	12.522695	0.0183096	0.2710581	0.0291200	0.3001781	0.2494094	0.0015083	0.2509177		2164.5985	2164.5985	0.0770749	0.0244010	1.2207979	2175.01772881414
Daily - Winter (Max)																		
2028	1.8532722	1.1605217	15.873935	15.428983	0.0618729	0.3548337	0.6554973	1.0103311	0.3331851	0.2104624	0.5436475		8355.8248	8355.8248	0.5117383	1.0201629	0.3215249	8672.948386455184
Average Daily																		
2028	0.3284332	0.2533230	2.3872833	3.0184247	0.0066007	0.0669709	0.0409018	0.1078727	0.0619887	0.0117662	0.0737549		835.27763	835.27763	0.0416786	0.0623233	0.3860339	855.2779851600693
Annual																		
2028	0.0599390	0.0462314	0.4356792	0.5508625	0.0012046	0.0122221	0.0074645	0.0196867	0.0113129	0.0021473	0.0134602		138.28974	138.28974	0.0069003	0.0103183	0.0639123	141.6010308277278

2.2. Construction Emissions by Year

2.2.2 Onsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	1.1910830	0.9965110	8.4719063	11.093702	0.0178598	0.2706083	0.0010507	0.2716591	0.2489597	0.0001591	0.2491188		1727.2359	1727.2359	0.0700642	0.0140128	0	1733.1633954159522
Daily - Winter (Max)																		
2028	1.1910830	0.9965110	8.4719063	11.093702	0.0178598	0.2706083	0.0010507	0.2716591	0.2489597	0.0001591	0.2491188		1727.2359	1727.2359	0.0700642	0.0140128	0	1733.1633954159522
Average Daily																		
2028	0.2741122	0.2293340	1.9496989	2.5530713	0.0041102	0.0622769	0.0002418	0.0625188	0.0572948	0.0000366	0.0573314		397.50087	397.50087	0.0161243	0.0032248	0	398.8650005888768
Annual																		
2028	0.0500254	0.0418534	0.3558200	0.4659355	0.0007501	0.0113655	0.0000441	0.0114096	0.0104563	0.0000066	0.0104629		65.810806	65.810806	0.0026695	0.0005339	0	66.03665267254222

2.2. Construction Emissions by Year

2.2.3 Offsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	0.1016419	0.0842474	0.1359326	1.4289922	0.0004497	0.0004497	0.0280692	0.0285189	0.0004497	0.0013492	0.0017989		437.36258	437.36258	0.0070106	0.0103881	1.2207979	441.85433339818815
Daily - Winter (Max)																		
2028	0.6621892	0.1640106	7.4020292	4.3352801	0.0440130	0.0842254	0.6544465	0.7386719	0.0842254	0.2103033	0.2945287		6628.5888	6628.5888	0.4416740	1.0061500	0.3215249	6939.7849910392315
Average Daily																		
2028	0.0543210	0.0239890	0.4375843	0.4653534	0.0024905	0.0046939	0.0406599	0.0453539	0.0046939	0.0117295	0.0164235		437.77676	437.77676	0.0255542	0.0590984	0.3860339	456.4129845711926
Annual																		
2028	0.0099135	0.0043780	0.0798591	0.0849270	0.0004545	0.0008566	0.0074204	0.0082770	0.0008566	0.0021406	0.0029972		72.478938	72.478938	0.0042308	0.0097844	0.0639123	75.56437815518562

3.1. Channel Retaining Walls - Material Trucks (2028)

3.1.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.1. Channel Retaining Walls - Material Trucks (2028)

3.1.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0738548	0.0105821	0.9539402	0.4082961	0.0057320	0.0110231	0.2262383	0.2372614	0.0110231	0.0634490	0.0744721		817.02431	817.02431	0.0570997	0.1294113	0.0381465	857.0545352524883
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0040710	0.0006040	0.0529713	0.0222757	0.0003140	0.0006040	0.0122747	0.0128788	0.0006040	0.0034462	0.0040502		44.760192	44.760192	0.0031287	0.0070910	0.0348082	46.986347554677515
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0007429	0.0001102	0.0096672	0.0040653	0.0000573	0.0001102	0.0022401	0.0023503	0.0001102	0.0006289	0.0007391		7.4105607	7.4105607	0.0005180	0.0011740	0.0057629	7.77912604324432

3.2. Channel Retaining Walls - Grading Trucks (2028)

3.2.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2. Channel Retaining Walls - Grading Trucks (2028)

3.2.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.4874420	0.0698424	6.2960053	2.6947543	0.0378313	0.0727525	0.4001390	0.4728915	0.0727525	0.1455050	0.2182576		5392.3604	5392.3604	0.3768581	0.8541148	0.2517674	5656.559932666423
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0268686	0.0039864	0.3496108	0.1470199	0.0020729	0.0039864	0.0219254	0.0259118	0.0039864	0.0079728	0.0119593		295.41727	295.41727	0.0206497	0.0468008	0.2297346	310.10989386087164
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0049035	0.0007275	0.0638039	0.0268311	0.0003783	0.0007275	0.0040013	0.0047289	0.0007275	0.0014550	0.0021825		48.909700	48.909700	0.0034188	0.0077484	0.0380351	51.342231885412524

3.3. Channel Retaining Walls (2028)

3.3.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Off-Road Equipment	1.1829111	0.9883391	8.4719063	11.093702	0.0178598	0.2706083		0.2706083	0.2489597		0.2489597		1727.2359	1727.2359	0.0700642	0.0140128		1733.1633954159522
Dust From Material Movement							0.0010507	0.0010507		0.0001591	0.0001591							
Paving	0.0081719	0.0081719																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment	1.1829111	0.9883391	8.4719063	11.093702	0.0178598	0.2706083		0.2706083	0.2489597		0.2489597		1727.2359	1727.2359	0.0700642	0.0140128		1733.1633954159522
Dust From Material Movement							0.0010507	0.0010507		0.0001591	0.0001591							
Paving	0.0081719	0.0081719																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.2722316	0.2274533	1.9496989	2.5530713	0.0041102	0.0622769		0.0622769	0.0572948		0.0572948		397.50087	397.50087	0.0161243	0.0032248		398.8650005888768
Dust From Material Movement							0.0002418	0.0002418		0.0000366	0.0000366							
Paving	0.0018806	0.0018806																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.0496822	0.0415102	0.3558200	0.4659355	0.0007501	0.0113655		0.0113655	0.0104563		0.0104563		65.810806	65.810806	0.0026695	0.0005339		66.03665267254222
Dust From Material Movement							0.0000441	0.0000441		0.0000066	0.0000066							
Paving	0.0003432	0.0003432																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3. Channel Retaining Walls (2028)

3.3.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Worker	0.0972238	0.0830040	0.0770515	1.3994944	0	0	0.0244713	0.0244713	0	0	0		377.22062	377.22062	0.0039683	0.0019841	1.0883126	378.9994267245023
Vendor	0.0044180	0.0012434	0.0588810	0.0294978	0.0004497	0.0004497	0.0035979	0.0040476	0.0004497	0.0013492	0.0017989		60.141963	60.141963	0.0030423	0.0084040	0.1324852	62.85490667368578
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.0965624	0.0823426	0.0906099	1.2020704	0	0	0.0244713	0.0244713	0	0	0		359.02854	359.02854	0.0046297	0.0142198	0.0281701	363.4099601916489
Vendor	0.0043298	0.0012434	0.0614736	0.0301592	0.0004497	0.0004497	0.0035979	0.0040476	0.0004497	0.0013492	0.0017989		60.175561	60.175561	0.0030864	0.0084040	0.0034407	62.760562928670716
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.0223748	0.0191022	0.0208527	0.2891981	0	0	0.0056317	0.0056317	0	0	0		83.755138	83.755138	0.0010654	0.0032725	0.1083183	84.86530025557032
Vendor	0.0010066	0.0002963	0.0141494	0.0068595	0.0001035	0.0001035	0.0008280	0.0009315	0.0001035	0.0003105	0.0004140		13.844157	13.844157	0.0007103	0.0019340	0.0131727	14.45144290007315
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.0040834	0.0034861	0.0038056	0.0527786	0	0	0.0010277	0.0010277	0	0	0		13.866619	13.866619	0.0001764	0.0005418	0.0179333	14.050418935364444
Vendor	0.0001837	0.0000540	0.0025822	0.0012518	0.0000188	0.0000188	0.0001511	0.0001700	0.0000188	0.0000566	0.0000755		2.2920582	2.2920582	0.0001176	0.0003202	0.0021809	2.3926012911643277
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1 Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetatior	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.2 Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.3 Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Daily, Winter (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Annual																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		

5. Activity Data

5.1 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Channel Retaining Walls - Material Trucks	Site Preparation	3/1/2028	3/28/2028	5	20	
Channel Retaining Walls - Grading Trucks	Grading	3/1/2028	3/28/2028	5	20	
Channel Retaining Walls	Paving	3/1/2028	6/26/2028	5	84	

5.3. Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Channel Retaining Walls - Material Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Channel Retaining Walls - Material Trucks	Vendor		10.2	HHDT,MHDT
Channel Retaining Walls - Material Trucks	Hauling	10	25	HHDT
Channel Retaining Walls - Material Trucks	Onsite truck			HHDT
Channel Retaining Walls - Grading Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Channel Retaining Walls - Grading Trucks	Vendor	0	10.2	HHDT,MHDT
Channel Retaining Walls - Grading Trucks	Hauling	66	25	HHDT
Channel Retaining Walls - Grading Trucks	Onsite truck			HHDT
Channel Retaining Walls	Worker	30	18.5	LDA,LDT1,LDT2
Channel Retaining Walls	Vendor	2	10.2	HHDT,MHDT
Channel Retaining Walls	Hauling	0	25	HHDT
Channel Retaining Walls	Onsite truck			HHDT

5.2. Off-Road Equipment

5.2.1 Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Channel Retaining Walls	Cement and Mortar Mixers	Diesel	Average	2	8	10	0.56
Channel Retaining Walls	Pumps	Diesel	Average	2	8	11	0.74
Channel Retaining Walls	Trenchers	Diesel	Average	2	8	40	0.5
Channel Retaining Walls	Plate Compactors	Diesel	Average	2	8	8	0.43
Channel Retaining Walls	Excavators	Diesel	Average	1	8	36	0.38
Channel Retaining Walls	Skid Steer Loaders	Diesel	Average	1	8	71	0.37
Channel Retaining Walls	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37

5.6. Dust Mitigation

5.6.1 Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Channel Retaining Walls - Material Trucks	0	0	0	0	0
Channel Retaining Walls - Grading Trucks	0	0	0	0	0
Channel Retaining Walls	2435	4004	0	0	0

5.6. Dust Mitigation

5.6.2 Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74	74

5. Activity Data

5.8 Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2028	0	531.983	0.033	0.0040000000189989805

5.18.1. Land Use Change

5.18.1.1 Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1 Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1 Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report
6.1 Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.54	annual days of extreme heat
Extreme Precipitation	3.6	annual days with precipitation above 20 mm
Sea Level Rise		meters of inundation depth
Wildfire	0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are:
No rise,
0.5 meter,
1.0 meter,
1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are:
Warmer/drier (HadGEM2-ES),
Cooler/wetter (CNRM-CM5),
Average conditions (CanESM2),
Range of different rainfall and temperature possibilities (MIROC5).
Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6. Climate Risk Detailed Report
6.2 Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6. Climate Risk Detailed Report
6.3 Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive C	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1 CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	58.2327318
AQ-PM	68.6869944
AQ-DPM	84.23148724
Drinking Water	53.19095791
Lead Risk Housing	28.73345936
Pesticides	11.82758621
Toxic Releases	91.38534634
Traffic	88.9375
Effect Indicators	
CleanUp Sites	97.25643897
Groundwater	99.02042172
Haz Waste Facilities/Generators	98.38517538
Impaired Water Bodies	82.96934061
Solid Waste	97.70904926
Sensitive Population	
Asthma	16.96161515
Cardio-vascular	20.77517448
Low Birth Weights	54.84988453
Socioeconomic Factor Indicators	
Education	49.19007846
Housing	39.20152091
Linguistic	59.37203952
Poverty	55.50251256
Unemployment	5.570015617

7. Health and Equity Details

7.2 Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	
Above Pov	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	
Bachelor's	70.42217375
High schoc	100
Preschool	16.21968433
Transportation	
Auto Acces	57.21801617
Active com	69.0619787
Social	
2-parent h	42.17887848
Voting	31.99024766
Neighborhood	
Alcohol av	44.80944437
Park acces	28.53843193
Retail dens	94.63621199
Supermark	58.28307455
Tree canop	29.41100988
Housing	
Homeown	19.54317978
Housing ha	30.20659566
Low-inc ho	97.88271526
Low-inc re	75.33684075
Uncrowde	22.40472219
Health Outcomes	
Insured ad	50.3143847
Arthritis	99
Asthma ER	83
High Blood	99
Cancer (ex	96
Asthma	66
Coronary H	99
Chronic Ob	95
Diagnosed	99
Life Expect	99
Cognitively	52
Physically	82
Heart Atta	76
Mental He	59

Chronic Kid	99
Obesity	95
Pedestrian	73
Physical He	93
Stroke	98
Health Risk Behaviors	
Binge Drinl	4
Current Sm	42
No Leisure	69
Climate Change Exposures	
Wildfire Ri	0
SLR Inunda	0
Children	25
Elderly	83
English Spe	50
Foreign-bo	81
Outdoor W	61
Climate Change Adaptive Capacity	
Imperviou	18
Traffic Den	93
Traffic Acc	65
Other Indices	
Hardship	53
Other Decision Support	
2016 Votin	59

7. Health and Equity Details

7.3 Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64
Healthy Places Index Score for Project Location (b)	56
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

8. User Changes to Default Data

8.1 Justifications

Screen	Justification
Construction: Construction Phases	see assumptions sheet
Construction: Off-Road Equipment	see assumptions sheet
Construction: Dust From Material Movement	see assumptions
Construction: Trips and VMT	See assumptions sheet

8.4. Construction

8.4.6 Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Channel Retaining Walls - Material Trucks	Hauling	One-Way Trips per Day	0	10
Channel Retaining Walls - Material Trucks	Hauling	Miles per Trip	20	25
Channel Retaining Walls - Grading Trucks	Hauling	One-Way Trips per Day	0	66
Channel Retaining Walls - Grading Trucks	Hauling	Miles per Trip	20	25
Channel Retaining Walls	Hauling	One-Way Trips per Day	9.583333333333334	0
Channel Retaining Walls	Hauling	Miles per Trip	20	25

1. Basic Project Information

1.1 Basic Project Information

Data Field	Value
Project Name	IBC Barranca - 3 (Overcrossing)
Construction Start Date	6/27/2028
Lead Agency	
Land Use Scale	
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	19.6
Location	33.68130786568295, -117.83660227656074
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.43

1. Basic Project Information

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	0.267	Acre	0.267	0	0	0		Barranca Trail

2. Emissions Summary

2.1 Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Unmit.	1.7898677579	1.4052952798	12.506747215	17.096554491	0.0338771356	0.4145119475	1.0068952520	1.4214071995	0.3829742992	0.2380336037	0.6210079030		4253.7079652	4253.7079652	0.2034499827	0.2622192965	4.0188278706	4340.9543930
Daily, Winter (Max)																		
Unmit.	1.6549007611	1.3839104404	10.868725836	16.144091375	0.0308643056	0.3946703439	0.7642326809	1.0618834857	0.3631326956	0.1986021237	0.4869580471		3855.7682176	3855.7682176	0.1915665553	0.2700059206	0.0965187420	3941.1156457
Average Daily (Max)																		
Unmit.	0.5655696053	0.4628031577	3.9397608600	5.8003866398	0.0094645762	0.1332092435	0.2329081165	0.3661173601	0.1227397792	0.0526682300	0.1754080093		1137.2142967	1137.2142967	0.0471936980	0.0407173525	0.3277946806	1150.8557049
Annual (Max)																		
Unmit.	0.1032164529	0.0844615762	0.7190063569	1.0585705617	0.0017272851	0.0243106869	0.0425057312	0.0668164182	0.0224000097	0.0096119519	0.0320119617		188.27880465	188.27880465	0.0078134552	0.0067412223	0.0542701501	190.53729545

2.2. Construction Emissions by Year

2.2.1 Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	1.78986775	1.40529527	12.5067472	17.0965544	0.03387713	0.41451194	1.00689525	1.42140719	0.38297429	0.23803360	0.62100790		4253.70796	4253.70796	0.20344998	0.26221929	4.01882787	4340.954393051544
Daily - Winter (Max)																		
2028	1.65490076	1.38391044	10.8687258	16.1440913	0.03086430	0.39467034	0.76423268	1.06188348	0.36313269	0.19860212	0.48695804		3855.76821	3855.76821	0.19156655	0.27000592	0.09651874	3941.1156645798555
2029	1.15667533	0.96579522	8.58846482	13.9294089	0.02054394	0.26432159	0.35700368	0.62132527	0.24321184	0.08439387	0.32760571		2377.98826	2377.98826	0.08815727	0.04107554	0.02475234	2391.2617273323604
Average Daily																		
2028	0.56556960	0.46280315	3.93976086	5.80038663	0.00946457	0.13320924	0.23290811	0.36611736	0.12273977	0.05266823	0.17540800		1137.21429	1137.21429	0.04719369	0.04071735	0.32779468	1150.8557049577114
2029	0.15385841	0.12839292	1.09725118	1.61361015	0.00280319	0.03330447	0.03539155	0.06869602	0.03064327	0.00834744	0.03899071		309.155361	309.155361	0.01167448	0.00415907	0.04084374	310.72747195366503
Annual																		
2028	0.10321645	0.08446157	0.71900635	1.05857056	0.00172728	0.02431068	0.04250573	0.06681641	0.02240000	0.00961195	0.03201196		188.278804	188.278804	0.00781345	0.00674122	0.05427015	190.53729545661596
2029	0.02807916	0.02343170	0.20024834	0.29448385	0.00051158	0.00607806	0.00645895	0.01253702	0.00559239	0.00152340	0.00711580		51.1841981	51.1841981	0.00193284	0.00068858	0.00676214	51.44447898644108

2.2. Construction Emissions by Year

2.2.2 Onsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	1.54113341	1.28934535	10.7045608	14.7515855	0.02310975	0.39422060	0.13814247	0.53236307	0.36268295	0.01492820	0.37761115		2295.87339	2295.87339	0.09313066	0.01862613	0	2303.752245689432
Daily - Winter (Max)																		
2028	1.54113341	1.28934535	10.7045608	14.7515855	0.02310975	0.39422060	0.13814247	0.53236307	0.36268295	0.01492820	0.37761115		2295.87339	2295.87339	0.09313066	0.01862613	0	2303.752245689432
2029	1.07152399	0.89609828	8.46215317	12.9218699	0.02009419	0.26387184	0.00004742	0.26391927	0.24276210	0.00000718	0.24276928		2013.48316	2013.48316	0.08167568	0.01633513	0	2020.3929272893977
Average Daily																		
2028	0.51184589	0.42818058	3.69139875	5.22512810	0.00816735	0.13086830	0.03331170	0.16418000	0.12039883	0.00360005	0.12399889		813.623866	813.623866	0.03300414	0.00660082	0	816.4160173521689
2029	0.14536323	0.12141097	1.08553642	1.50724983	0.00276660	0.03326498	0.00000352	0.03326851	0.03060378	5.33998495	0.03060432		272.938266	272.938266	0.01107156	0.00221431	0	273.874921759199
Annual																		
2028	0.09341187	0.07814295	0.67368027	0.95358587	0.00149054	0.02388346	0.00607938	0.02996285	0.02197278	0.00065701	0.02262979		134.704716	134.704716	0.00546421	0.00109284	0	135.1669885665292
2029	0.02652879	0.02215750	0.19811039	0.27507309	0.00050490	0.00607086	6.43568941	0.00607150	0.00558519	9.74547254	0.00558528		45.1880448	45.1880448	0.00183302	0.00036660	0	45.34311874250784

2.2. Construction Emissions by Year

2.2.3 Offsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2028	0.24873434	0.11594992	1.80218639	2.34496890	0.01076737	0.02029134	0.86875278	0.88904412	0.02029134	0.22310540	0.24339674		1957.83457	1957.83457	0.11031931	0.24359316	4.01882787	2037.2021473621116
Daily - Winter (Max)																		
2028	0.22095609	0.09456508	1.85709472	1.80688665	0.01076737	0.02029134	0.76418526	0.78447660	0.02029134	0.19859494	0.21888628		1841.97739	1841.97739	0.10987839	0.25366828	0.09651874	1920.4140252159123
2029	0.08515134	0.06969693	0.20450079	1.00753899	0.00114640	0.00220462	0.35695625	0.35740600	0.00220462	0.08438669	0.08483643		364.505105	364.505105	0.01133176	0.02967422	0.02475234	370.86880004296296
Average Daily																		
2028	0.05372371	0.03462257	0.24836210	0.57525853	0.00129721	0.00234094	0.19959640	0.20193735	0.00234094	0.04906817	0.05140911		323.590429	323.590429	0.01418955	0.03411652	0.32779468	334.4396876055428
2029	0.00849517	0.00698194	0.01171475	0.10636031	0.00003658	0.00003948	0.03538802	0.03542750	0.00003948	0.00834691	0.00838639		36.2170944	36.2170944	0.00060291	0.00194476	0.04084374	36.85255019446599
Annual																		
2028	0.00980457	0.00631861	0.04532608	0.10498468	0.00023674	0.00042722	0.03642634	0.03685356	0.00042722	0.00895494	0.00938216		53.5740884	53.5740884	0.00234924	0.00564837	0.05427015	55.37030689008678
2029	0.00155036	0.00127420	0.00213794	0.01941075	0.00000667	0.00000720	0.00645831	0.00646552	0.00000720	0.00152331	0.00153051		5.99615329	5.99615329	0.00009982	0.00032197	0.00676214	6.101360243933234

3.1. Overcrossing Retaining Wall - Material Trucks (2028)

3.1.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.1. Overcrossing Retaining Wall - Material Trucks (2028)

3.1.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.04470974	0.00687842	0.55199341	0.24312578	0.00343921	0.00661386	0.13574300	0.14235686	0.00661386	0.03806941	0.04468328		490.058633	490.058633	0.03425983	0.07764680	0.88430720	514.9381856891077
Daily, Winter (Max)																		
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00305325	0.00045300	0.03972850	0.01670681	0.00023556	0.00045300	0.00920609	0.00965910	0.00045300	0.00258465	0.00303765		33.5701445	33.5701445	0.00234656	0.00531827	0.02610620	35.239760666008145
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00055721	0.00008267	0.00725045	0.00304899	0.00004299	0.00008267	0.00168011	0.00176278	0.00008267	0.00047169	0.00055437		5.55792052	5.55792052	0.00038850	0.00088050	0.00432218	5.83434453243324

3.2. Concrete Slab Bridge - Material Trucks (2028)

3.2.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2. Concrete Slab Bridge - Material Trucks (2028)

3.2.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.10339680	0.01481506	1.33551628	0.57161455	0.00802482	0.01543235	0.31673366	0.33216602	0.01543235	0.08882864	0.10426099		1143.83403	1143.83403	0.07993961	0.18117588	0.05340521	1199.8763493534836
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00427455	0.00063420	0.05561991	0.02338953	0.00032978	0.00063420	0.01288853	0.01352274	0.00063420	0.00361851	0.00425271		46.9982023	46.9982023	0.00328518	0.00744558	0.03654868	49.3356649324114
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00078010	0.00011574	0.01015063	0.00426859	0.00006018	0.00011574	0.00235215	0.00246790	0.00011574	0.00066037	0.00077612		7.78108874	7.78108874	0.00054390	0.00123270	0.00605105	8.168082345406537

3.3. Prefab Truss Bridge (2029)

3.3.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road Equipment	0.74916746	0.62476060	5.20418068	6.23155374	0.01451245	0.15560888		0.15560888	0.14316017		0.14316017		1405.33692	1405.33692	0.05700661	0.01140132		1410.1596826328926
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.06568043	0.05477353	0.45625693	0.54632799	0.00127232	0.01364242		0.01364242	0.01255102		0.01255102		123.207620	123.207620	0.00499783	0.00099956		123.63043792945908
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.01198667	0.00999616	0.08326689	0.09970485	0.00023219	0.00248974		0.00248974	0.00229056		0.00229056		20.3984276	20.3984276	0.00082744	0.00016548		20.468429862857345
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.3. Prefab Truss Bridge (2029)

3.3.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.02486814	0.02107619	0.02072345	0.30106326	0	0	0.10456752	0.10456752	0	0.02451045	0.02451045		94.1299775	94.1299775	0.00105821	0.00379195	0.00667218	95.29310659301892
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.00216475	0.00183231	0.00181685	0.02768571	0	0	0.00905217	0.00905217	0	0.00212001	0.00212001		8.36522131	8.36522131	0.00009277	0.00033244	0.00977658	8.476385898415794
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.00039506	0.00033439	0.00033157	0.00505264	0	0	0.00165202	0.00165202	0	0.00038690	0.00038690		1.38495785	1.38495785	0.00001536	0.00005504	0.00161862	1.403362417524002
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.4. Overcrossing Retaining Wall (2028)

3.4.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Off-Road Equipment	1.54113341	1.28934535	10.7045608	14.7515855	0.02310975	0.39422060		0.39422060	0.36268295		0.36268295		2295.87339	2295.87339	0.09313066	0.01862613		2303.752245689432
Dust From Material Movement							0.13814247	0.13814247		0.01492820	0.01492820							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment	1.54113341	1.28934535	10.7045608	14.7515855	0.02310975	0.39422060		0.39422060	0.36268295		0.36268295		2295.87339	2295.87339	0.09313066	0.01862613		2303.752245689432
Dust From Material Movement							0.13814247	0.13814247		0.01492820	0.01492820							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.37156093	0.31085586	2.58082562	3.55654666	0.00557166	0.09504496		0.09504496	0.08744136		0.08744136		553.525639	553.525639	0.02245342	0.00449068		555.4251989607396
Dust From Material Movement							0.03330558	0.03330558		0.00359912	0.00359912							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.06780987	0.05673119	0.47100067	0.64906976	0.00101682	0.01734570		0.01734570	0.01595804		0.01595804		91.6424864	91.6424864	0.00371742	0.00074348		91.9569801692219
Dust From Material Movement							0.00607826	0.00607826		0.00065684	0.00065684							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.4. Overcrossing Retaining Wall (2028)

3.4.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Worker	0.11018703	0.09407124	0.08732510	1.58609369	0	0	0.44441196	0.44441196	0	0.10416945	0.10416945		427.516709	427.516709	0.00449743	0.00224871	1.23342096	429.5326836211026
Vendor	0.00441806	0.00124340	0.05888106	0.02949785	0.00044974	0.00044974	0.01711181	0.01756156	0.00044974	0.00472769	0.00517744		60.1419635	60.1419635	0.00304237	0.00840402	0.13248529	62.85490667368578
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.10943746	0.09332167	0.10269132	1.36234654	0	0	0.44441196	0.44441196	0	0.10416945	0.10416945		406.899014	406.899014	0.00524700	0.01611579	0.03192616	411.86462155053545
Vendor	0.00432987	0.00124340	0.06147369	0.03015923	0.00044974	0.00044974	0.01711181	0.01756156	0.00044974	0.00472769	0.00517744		60.1755619	60.1755619	0.00308647	0.00840402	0.00344075	62.760562928670716
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.02656564	0.02268019	0.02475845	0.34336544	0	0	0.10579726	0.10579726	0	0.02477766	0.02477766		99.4426089	99.4426089	0.00126503	0.00388545	0.12860653	100.76070570026444
Vendor	0.00105454	0.00031041	0.01482318	0.00718622	0.00010843	0.00010843	0.00408184	0.00419028	0.00010843	0.00112889	0.00123732		14.5034032	14.5034032	0.00074413	0.00202617	0.01380003	15.139606847695685
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.00484822	0.00413913	0.00451841	0.06266419	0	0	0.01930800	0.01930800	0	0.00452192	0.00452192		16.4638587	16.4638587	0.00020944	0.00064328	0.02129227	16.68208470421048
Vendor	0.00019245	0.00005664	0.00270523	0.00131148	0.00001978	0.00001978	0.00074493	0.00076472	0.00001978	0.00020602	0.00022581		2.40120392	2.40120392	0.00012320	0.00033545	0.00228475	2.5065346859816766
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.5. Prefab Truss Bridge - Material Trucks (2029)

3.5.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.5. Prefab Truss Bridge - Material Trucks (2029)

3.5.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.01362456	0.00211643	0.18377734	0.07835228	0.00114640	0.00220462	0.04524766	0.04745228	0.00220462	0.01268980	0.01489442		159.368338	159.368338	0.01027354	0.02588226	0.00699879	167.34509262813287
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00003756	0.00000604	0.00050748	0.00021369	0.00000314	0.00000604	0.00012274	0.00012878	0.00000604	0.00003446	0.00004050		0.43654090	0.43654090	0.00002814	0.00007091	0.00031871	0.4586945659503575
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00000685	0.00000110	0.00009261	0.00003899	5.73201881	0.00000110	0.00002240	0.00002350	0.00000110	0.00000628	0.00000739		0.07227432	0.07227432	0.00000466	0.00001174	0.00005276	0.07594211998978531

3.6. Overcrossing Retaining Wall - Grading Trucks (2028)

3.6.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.6. Overcrossing Retaining Wall - Grading Trucks (2028)

3.6.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.08941949	0.01375684	1.10398682	0.48625156	0.00687842	0.01322773	0.27148600	0.28471373	0.01322773	0.07613883	0.08936657		980.117267	980.117267	0.06851967	0.15529361	1.76861440	1029.8763713782155
Daily, Winter (Max)																		
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00610650	0.00090600	0.07945701	0.03341362	0.00047112	0.00090600	0.01841219	0.01931820	0.00090600	0.00516930	0.00607531		67.1402890	67.1402890	0.00469312	0.01063654	0.05221240	70.47952133201629
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00111443	0.00016534	0.01450090	0.00609798	0.00008598	0.00016534	0.00336022	0.00352557	0.00016534	0.00094339	0.00110874		11.1158410	11.1158410	0.00077700	0.00176100	0.00864436	11.66868906486648

3.7. Concrete Slab Bridge - Grading Trucks (2028)

3.7.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.7. Concrete Slab Bridge - Grading Trucks (2028)

3.7.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.02954194	0.00423287	0.38157608	0.16331844	0.00229280	0.00440924	0.09049533	0.09490457	0.00440924	0.02537961	0.02978885		326.809725	326.809725	0.02283989	0.05176453	0.01525863	342.82181410099537
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00122130	0.00018120	0.01589140	0.00668272	0.00009422	0.00018120	0.00368243	0.00386364	0.00018120	0.00103386	0.00121506		13.4280578	13.4280578	0.00093862	0.00212730	0.01044248	14.095904266403254
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.00022288	0.00003306	0.00290018	0.00121959	0.00001719	0.00003306	0.00067204	0.00070511	0.00003306	0.00018867	0.00022174		2.22316821	2.22316821	0.00015540	0.00035220	0.00172887	2.333737812973296

3.8. Concrete Slab Bridge (2028)

3.8.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road Equipment	1.08614565	0.90837775	8.59852832	12.9188653	0.02009692	0.27735945		0.27735945	0.25517070		0.25517070		2013.79082	2013.79082	0.08168816	0.01633763		2020.7016393639437
Dust From Material Movement							0.00004742	0.00004742		0.00000718	0.00000718							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.14028495	0.11732472	1.11057312	1.66858143	0.00259568	0.03582333		0.03582333	0.03295746		0.03295746		260.098227	260.098227	0.01055072	0.00211014		260.99081839142923
Dust From Material Movement							0.00000612	0.00000612		9.27471071	9.27471071							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.02560200	0.02141176	0.20267959	0.30451611	0.00047371	0.00653775		0.00653775	0.00601473		0.00601473		43.0622297	43.0622297	0.00174679	0.00034935		43.21000839730732
Dust From Material Movement							0.00000111	0.00000111		1.69263470	1.69263470							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.8. Concrete Slab Bridge (2028)

3.8.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.08368747	0.07136363	0.07852865	1.04179441	0	0	0.33984444	0.33984444	0	0.07965899	0.07965899		311.158069	311.158069	0.00401241	0.01232384	0.02441412	314.95529883276237
Vendor	0.00432987	0.00124340	0.06147369	0.03015923	0.00044974	0.00044974	0.01711181	0.01756156	0.00044974	0.00472769	0.00517744		60.1755619	60.1755619	0.00308647	0.00840402	0.00344075	62.760562928670716
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.01088298	0.00929125	0.01014264	0.14066441	0	0	0.04334131	0.04334131	0	0.01015051	0.01015051		40.7380435	40.7380435	0.00051823	0.00159172	0.05268544	41.27802019233522
Vendor	0.00056493	0.00016629	0.00794099	0.00384976	0.00005808	0.00005808	0.00218670	0.00224479	0.00005808	0.00060476	0.00066285		7.76968031	7.76968031	0.00039864	0.00108545	0.00739287	8.1105036684084
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.00198614	0.00169565	0.00185103	0.02567125	0	0	0.00790979	0.00790979	0	0.00185246	0.00185246		6.74464801	6.74464801	0.00008580	0.00026352	0.00872267	6.834047305296312
Vendor	0.00010310	0.00003034	0.00144923	0.00070258	0.00001060	0.00001060	0.00039907	0.00040967	0.00001060	0.00011036	0.00012097		1.28635924	1.28635924	0.00006600	0.00017970	0.00122397	1.3427864389187554
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.9. Concrete Slab Bridge (2029)

3.9.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Off-Road Equipment	1.07152399	0.89609828	8.46215317	12.9218699	0.02009419	0.26387184		0.26387184	0.24276210		0.24276210		2013.48316	2013.48316	0.08167568	0.01633513		2020.3929272893977
Dust From Material Movement							0.00004742	0.00004742		0.00000718	0.00000718							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.07968280	0.06663744	0.62927949	0.96092183	0.00149428	0.01962256		0.01962256	0.01805275		0.01805275		149.730646	149.730646	0.00607372	0.00121474		150.24448382973995
Dust From Material Movement							0.00000352	0.00000352		5.33998495	5.33998495							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.01454211	0.01216133	0.11484350	0.17536823	0.00027270	0.00358111		0.00358111	0.00329462		0.00329462		24.7896172	24.7896172	0.00100557	0.00020111		24.8746888796505
Dust From Material Movement							6.43568941	6.43568941		9.74547254	9.74547254							
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.9. Concrete Slab Bridge (2029)

3.9.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0.08082146	0.06849762	0.06735122	0.97845561	0	0	0.33984444	0.33984444	0	0.07965899	0.07965899		305.922427	305.922427	0.00343921	0.01232384	0.02168459	309.70259642731145
Vendor	0.00432987	0.00119931	0.05896042	0.02908338	0.00044974	0.00044974	0.01711181	0.01756156	0.00044974	0.00472769	0.00517744		58.5826780	58.5826780	0.00304237	0.00840402	0.00306774	61.16620361565152
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.00596758	0.00505113	0.00500850	0.07632110	0	0	0.02495409	0.02495409	0	0.00584423	0.00584423		23.0603757	23.0603757	0.00025575	0.00091644	0.02695106	23.36682273335604
Vendor	0.00032526	0.00009246	0.00438190	0.00213980	0.00003344	0.00003344	0.00125901	0.00129245	0.00003344	0.00034819	0.00038164		4.35495647	4.35495647	0.00022624	0.00062495	0.00379737	4.5506469967438115
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.00108908	0.00092183	0.00091405	0.01392860	0	0	0.00455412	0.00455412	0	0.00106657	0.00106657		3.81790836	3.81790836	0.00004234	0.00015172	0.00446205	3.8686441643797824
Vendor	0.00005936	0.00001687	0.00079969	0.00039051	0.00000610	0.00000610	0.00022976	0.00023587	0.00000610	0.00006354	0.00006964		0.72101274	0.72101274	0.00003745	0.00010346	0.00062869	0.7534115420396672
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1 Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetation	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.2 Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.3 Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Daily, Winter (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Annual																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		

5. Activity Data

5.1 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Overcrossing Retaining Wall - Material Trucks	Site Preparation	6/27/2028	7/31/2028	5	25	
Concrete Slab Bridge - Material Trucks	Site Preparation	10/27/2028	11/16/2028	5	15	
Prefab Truss Bridge	Site Preparation	2/8/2029	3/23/2029	5	32	
Overcrossing Retaining Wall	Site Preparation	6/27/2028	10/26/2028	5	88	
Prefab Truss Bridge - Material Trucks	Site Preparation	2/8/2029	2/8/2029	5	1	
Overcrossing Retaining Wall - Grading Trucks	Grading	6/27/2028	7/31/2028	5	25	
Concrete Slab Bridge - Grading Trucks	Grading	10/27/2028	11/16/2028	5	15	
Concrete Slab Bridge	Paving	10/27/2028	2/7/2029	5	74	

5.2. Off-Road Equipment

5.2.1 Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Prefab Truss Bridge	Cranes	Diesel	Average	1	8	367	0.29
Prefab Truss Bridge	Welders	Diesel	Average	2	8	46	0.45
Overcrossing Retaining Wall	Cement and Mortar Mixers	Diesel	Average	2	8	10	0.56
Overcrossing Retaining Wall	Pumps	Diesel	Average	2	8	11	0.74
Overcrossing Retaining Wall	Trenchers	Diesel	Average	2	8	40	0.5
Overcrossing Retaining Wall	Plate Compactors	Diesel	Average	2	8	8	0.43
Overcrossing Retaining Wall	Excavators	Diesel	Average	1	8	36	0.38
Overcrossing Retaining Wall	Skid Steer Loaders	Diesel	Average	1	8	71	0.37
Overcrossing Retaining Wall	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37
Overcrossing Retaining Wall	Graders	Diesel	Average	1	8	148	0.41
Concrete Slab Bridge	Cement and Mortar Mixers	Diesel	Average	2	8	10	0.56
Concrete Slab Bridge	Pumps	Diesel	Average	1	8	11	0.74
Concrete Slab Bridge	Bore/Drill Rigs	Diesel	Average	1	8	83	0.5
Concrete Slab Bridge	Excavators	Diesel	Average	1	8	36	0.38
Concrete Slab Bridge	Skid Steer Loaders	Diesel	Average	1	8	71	0.37
Concrete Slab Bridge	Plate Compactors	Diesel	Average	2	8	8	0.43
Concrete Slab Bridge	Tractors/Loaders/Backhoes	Diesel	Average	2	8	84	0.37
Concrete Slab Bridge	Pavers	Diesel	Average	1	7	81	0.42
Concrete Slab Bridge	Rollers	Diesel	Average	1	7	36	0.38

5.3. Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Overcrossing Retaining Wall - Material Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Overcrossing Retaining Wall - Material Trucks	Vendor		10.2	HHDT,MHDT
Overcrossing Retaining Wall - Material Trucks	Hauling	6	25	HHDT
Overcrossing Retaining Wall - Material Trucks	Onsite truck			HHDT
Concrete Slab Bridge - Material Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Concrete Slab Bridge - Material Trucks	Vendor		10.2	HHDT,MHDT
Concrete Slab Bridge - Material Trucks	Hauling	14	25	HHDT
Concrete Slab Bridge - Material Trucks	Onsite truck			HHDT
Prefab Truss Bridge	Worker	8	18.5	LDA,LDT1,LDT2
Prefab Truss Bridge	Vendor		10.2	HHDT,MHDT
Prefab Truss Bridge	Hauling	0	25	HHDT
Prefab Truss Bridge	Onsite truck			HHDT
Overcrossing Retaining Wall	Worker	34	18.5	LDA,LDT1,LDT2
Overcrossing Retaining Wall	Vendor	2	10.2	HHDT,MHDT
Overcrossing Retaining Wall	Hauling	0	25	HHDT
Overcrossing Retaining Wall	Onsite truck			HHDT
Prefab Truss Bridge - Material Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Prefab Truss Bridge - Material Trucks	Vendor		10.2	HHDT,MHDT
Prefab Truss Bridge - Material Trucks	Hauling	2	25	HHDT
Prefab Truss Bridge - Material Trucks	Onsite truck			HHDT
Overcrossing Retaining Wall - Grading Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Overcrossing Retaining Wall - Grading Trucks	Vendor	0	10.2	HHDT,MHDT
Overcrossing Retaining Wall - Grading Trucks	Hauling	12	25	HHDT
Overcrossing Retaining Wall - Grading Trucks	Onsite truck			HHDT
Concrete Slab Bridge - Grading Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Concrete Slab Bridge - Grading Trucks	Vendor	0	10.2	HHDT,MHDT
Concrete Slab Bridge - Grading Trucks	Hauling	4	25	HHDT
Concrete Slab Bridge - Grading Trucks	Onsite truck			HHDT
Concrete Slab Bridge	Worker	26	18.5	LDA,LDT1,LDT2
Concrete Slab Bridge	Vendor	2	10.2	HHDT,MHDT
Concrete Slab Bridge	Hauling	0	25	HHDT
Concrete Slab Bridge	Onsite truck			HHDT

5.6. Dust Mitigation

5.6.1 Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Overcrossing Retaining Wall - Material Trucks	0	0	0	0	0
Concrete Slab Bridge - Material Trucks	0	0	0	0	0
Prefab Truss Bridge	0	0	0	0	0
Overcrossing Retaining Wall	1529	252	44	0	0
Prefab Truss Bridge - Material Trucks	0	0	0	0	0
Overcrossing Retaining Wall - Grading Trucks	0	0	0	0	0
Concrete Slab Bridge - Grading Trucks	0	0	0	0	0
Concrete Slab Bridge	0	256	0	0	0

5.6. Dust Mitigation

5.6.2 Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74	74

5. Activity Data

5.8 Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2028	0	531.983	0.033	0.004000000189989805
2029	0	531.983	0.033	0.004000000189989805

5.18.1. Land Use Change

5.18.1.1 Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1 Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1 Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report
6.1 Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.54	annual days of extreme heat
Extreme Precipitation	3.6	annual days with precipitation above 20 mm
Sea Level Rise		meters of inundation depth
Wildfire	0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are:

No rise,
0.5 meter,
1.0 meter,
1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are:

Warmer/drier (HadGEM2-ES),
Cooler/wetter (CNRM-CM5),
Average conditions (CanESM2),
Range of different rainfall and temperature possibilities (MIROC5).

Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6. Climate Risk Detailed Report

6.2 Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6. Climate Risk Detailed Report

6.3 Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1 CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	58.2327318
AQ-PM	68.6869944
AQ-DPM	84.23148724
Drinking Water	53.19095791
Lead Risk Housing	28.73345936
Pesticides	11.82758621
Toxic Releases	91.38534634
Traffic	88.9375
Effect Indicators	
CleanUp Sites	97.25643897
Groundwater	99.02042172
Haz Waste Facilities/Generators	98.38517538
Impaired Water Bodies	82.96934061
Solid Waste	97.70904926
Sensitive Population	
Asthma	16.96161515
Cardio-vascular	20.77517448
Low Birth Weights	54.84988453
Socioeconomic Factor Indicators	
Education	49.19007846
Housing	39.20152091
Linguistic	59.37203952
Poverty	55.50251256
Unemployment	5.570015617

7. Health and Equity Details
7.2 Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	
Auto Access	57.21801617
Active commuting	69.0619787
Social	
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	
Insured adults	50.3143847
Arthritis	99
Asthma ER Admissions	83
High Blood Pressure	99
Cancer (excluding skin)	96
Asthma	66
Coronary Heart Disease	99
Chronic Obstructive Pulmonary Disease	95
Diagnosed Diabetes	99
Life Expectancy at Birth	99
Cognitively Disabled	52
Physically Disabled	82
Heart Attack ER Admissions	76
Mental Health Not Good	59
Chronic Kidney Disease	99
Obesity	95
Pedestrian Injuries	73
Physical Health Not Good	93
Stroke	98
Health Risk Behaviors	
Binge Drinking	4
Current Smoker	42
No Leisure Time for Physical Activity	69
Climate Change Exposures	
Wildfire Risk	0
SLR Inundation Area	0
Children	25
Elderly	83
English Speaking	50
Foreign-born	81
Outdoor Workers	61
Climate Change Adaptive Capacity	
Impervious Surface Cover	18
Traffic Density	93
Traffic Access	65
Other Indices	
Hardship	53
Other Decision Support	
2016 Voting	59

7. Health and Equity Details

7.3 Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64
Healthy Places Index Score for Project Location (b)	56
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

8. User Changes to Default Data

8.1 Justifications

Screen	Justification
Construction: Construction Phases	see assumptions sheet
Construction: Off-Road Equipment	see assumptions sheet
Construction: Dust From Material Movement	see assumptions sheet
Construction: Trips and VMT	See assumptions sheet

8.4. Construction

8.4.4 Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Overcrossing Retaining Wall	Material Imported	Cubic Yards		1529
Overcrossing Retaining Wall	Material Exported	Cubic Yards		252

8.4. Construction

8.4.6 Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Overcrossing Retaining Wall - Material Trucks	Hauling	One-Way Trips per Day	0	6
Overcrossing Retaining Wall - Material Trucks	Hauling	Miles per Trip	20	25
Concrete Slab Bridge - Material Trucks	Hauling	One-Way Trips per Day	0	14
Concrete Slab Bridge - Material Trucks	Hauling	Miles per Trip	20	25
Prefab Truss Bridge	Worker	One-Way Trips per Day	7.5	8
Prefab Truss Bridge	Hauling	Miles per Trip	20	25
Overcrossing Retaining Wall	Worker	One-Way Trips per Day	32.5	34
Overcrossing Retaining Wall	Hauling	One-Way Trips per Day	2.53409090909090	0
Overcrossing Retaining Wall	Hauling	Miles per Trip	20	25
Prefab Truss Bridge - Material Trucks	Hauling	One-Way Trips per Day	0	2
Prefab Truss Bridge - Material Trucks	Hauling	Miles per Trip	20	25
Overcrossing Retaining Wall - Grading Trucks	Hauling	One-Way Trips per Day	0	12
Overcrossing Retaining Wall - Grading Trucks	Hauling	Miles per Trip	20	25
Concrete Slab Bridge - Grading Trucks	Hauling	One-Way Trips per Day	0	4
Concrete Slab Bridge - Grading Trucks	Hauling	Miles per Trip	20	25
Concrete Slab Bridge	Worker	One-Way Trips per Day	30	26
Concrete Slab Bridge	Hauling	One-Way Trips per Day	0.43243243243243	0
Concrete Slab Bridge	Hauling	Miles per Trip	20	25

1. Basic Project Information

1.1 Basic Project Information

Data Field	Value
Project Name	IBC Barranca - 4 (Jamboree Road)
Construction Start Date	3/24/2029
Lead Agency	
Land Use Scale	
Analysis Level for Defaults	County
Windspeed (m/s)	2.5
Precipitation (days)	19.6
Location	33.68130786568295, -117.83660227656074
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6804
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.43

1. Basic Project Information

1.2 Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	0.004	Acre	0.004	0	0	0		Barranca Trail

2. Emissions Summary

2.1 Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Unmit.	0.4360251	0.3636937	2.5062928	2.8862373	0.0044357	0.0920219	0.1307094	0.2227313	0.0846602	0.0306380	0.1152982		489.25211	489.25211	0.0161545	0.0036277	0.3225278	491.05956694368575
Daily, Winter (Max)																		
Unmit.	0.4494292	0.3653693	2.6905110	2.9021987	0.0055821	0.0942265	0.1759570	0.2701836	0.0868648	0.0433278	0.1301927		642.66543	642.66543	0.0264280	0.0335885	0.0153390	653.3508666314609
Average Daily (Max)																		
Unmit.	0.0525839	0.0437748	0.3031965	0.3430554	0.0005409	0.0111051	0.0158039	0.0269090	0.0102176	0.0037126	0.0139303		59.327308	59.327308	0.0020036	0.0010707	0.0174409	59.71393956885874
Annual (Max)																		
Unmit.	0.0095965	0.0079889	0.0553333	0.0626076	0.0000987	0.0020266	0.0028842	0.0049109	0.0018647	0.0006775	0.0025422		9.8223130	9.8223130	0.0003317	0.0001772	0.0028875	9.886324147759451

2.2. Construction Emissions by Year

2.2.1 Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2029	0.4360251	0.3636937	2.5062928	2.8862373	0.0044357	0.0920219	0.1307094	0.2227313	0.0846602	0.0306380	0.1152982		489.25211	489.25211	0.0161545	0.0036277	0.3225278	491.05956694368575
Daily - Winter (Max)																		
2029	0.4494292	0.3653693	2.6905110	2.9021987	0.0055821	0.0942265	0.1759570	0.2701836	0.0868648	0.0433278	0.1301927		642.66543	642.66543	0.0264280	0.0335885	0.0153390	653.3508666314609
Average Daily																		
2029	0.0525839	0.0437748	0.3031965	0.3430554	0.0005409	0.0111051	0.0158039	0.0269090	0.0102176	0.0037126	0.0139303		59.327308	59.327308	0.0020036	0.0010707	0.0174409	59.71393956885874
Annual																		
2029	0.0095965	0.0079889	0.0553333	0.0626076	0.0000987	0.0020266	0.0028842	0.0049109	0.0018647	0.0006775	0.0025422		9.8223130	9.8223130	0.0003317	0.0001772	0.0028875	9.886324147759451

2.2. Construction Emissions by Year

2.2.2 Onsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2029	0.4047194	0.3369076	2.4808294	2.4475174	0.0044357	0.0920219	0	0.0920219	0.0846602	0	0.0846602		365.63462	365.63462	0.0148317	0.0029663	0	366.88939076205435
Daily - Winter (Max)																		
2029	0.4047194	0.3369076	2.4808294	2.4475174	0.0044357	0.0920219	0	0.0920219	0.0846602	0	0.0846602		365.63462	365.63462	0.0148317	0.0029663	0	366.88939076205435
Average Daily																		
2029	0.0487881	0.0406135	0.2990588	0.2950431	0.0005347	0.0110930	0	0.0110930	0.0102056	0	0.0102056		44.076502	44.076502	0.0017879	0.0003575	0	44.227762174055876
Annual																		
2029	0.0089038	0.0074119	0.0545782	0.0538453	0.0000975	0.0020244	0	0.0020244	0.0018625	0	0.0018625		7.2973680	7.2973680	0.0002960	0.0000592	0	7.322410752660502

2.2. Construction Emissions by Year

2.2.3 Offsite Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)																		
2029	0.0313056	0.0267861	0.0254633	0.4387199	0	0	0.1307094	0.1307094	0	0.0306380	0.0306380		123.61748	123.61748	0.0013227	0.0006613	0.3225278	124.17017618163142
Daily - Winter (Max)																		
2029	0.0447097	0.0284616	0.2096816	0.4546813	0.0011464	0.0022046	0.1759570	0.1781616	0.0022046	0.0433278	0.0455325		277.03081	277.03081	0.0115963	0.0306222	0.0153390	286.46147586940657
Average Daily																		
2029	0.0037958	0.0031613	0.0041376	0.0480122	0.0000062	0.0000120	0.0158039	0.0158159	0.0000120	0.0037126	0.0037247		15.250805	15.250805	0.0002157	0.0007132	0.0174409	15.48617739480287
Annual																		
2029	0.0006927	0.0005769	0.0007551	0.0087622	0.0000011	0.0000022	0.0028842	0.0028864	0.0000022	0.0006775	0.0006797		2.5249449	2.5249449	0.0000357	0.0001180	0.0028875	2.56391339509895

3.1. Roadway Concrete Paving - Material Trucks (2029)

3.1.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Dust From Material Movement							0	0		0	0							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.1. Roadway Concrete Paving - Material Trucks (2029)

3.1.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Daily, Winter (Max)																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0136245	0.0021164	0.1837773	0.0783522	0.0011464	0.0022046	0.0452476	0.0474522	0.0022046	0.0126898	0.0148944		159.36833	159.36833	0.0102735	0.0258822	0.0069987	167.34509262813287
Average Daily																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0000751	0.0000120	0.0010149	0.0004273	0.0000062	0.0000120	0.0002454	0.0002575	0.0000120	0.0000689	0.0000810		0.8730818	0.8730818	0.0000562	0.0001418	0.0006374	0.917389131900715
Annual																		
Worker	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0.0000137	0.0000022	0.0001852	0.0000779	0.0000011	0.0000022	0.0000448	0.0000470	0.0000022	0.0000125	0.0000147		0.1445486	0.1445486	0.0000093	0.0000234	0.0001055	0.15188423997957062

3.2. Roadway Concrete Paving (2029)

3.2.1 Onsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Off-Road Equipment	0.4047194	0.3369076	2.4808294	2.4475174	0.0044357	0.0920219		0.0920219	0.0846602		0.0846602		365.63462	365.63462	0.0148317	0.0029663		366.88939076205435
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Off-Road Equipment	0.4047194	0.3369076	2.4808294	2.4475174	0.0044357	0.0920219		0.0920219	0.0846602		0.0846602		365.63462	365.63462	0.0148317	0.0029663		366.88939076205435
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Off-Road Equipment	0.0487881	0.0406135	0.2990588	0.2950431	0.0005347	0.0110930		0.0110930	0.0102056		0.0102056		44.076502	44.076502	0.0017879	0.0003575		44.227762174055876
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Off-Road Equipment	0.0089038	0.0074119	0.0545782	0.0538453	0.0000975	0.0020244		0.0020244	0.0018625		0.0018625		7.2973680	7.2973680	0.0002960	0.0000592		7.322410752660502
Paving	0	0																
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

3.2. Roadway Concrete Paving (2029)

3.2.2 Offsite - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Worker	0.0313056	0.0267861	0.0254633	0.4387199	0	0	0.1307094	0.1307094	0	0.0306380	0.0306380		123.61748	123.61748	0.0013227	0.0006613	0.3225278	124.17017618163142
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Daily, Winter (Max)																		
Worker	0.0310851	0.0263452	0.0259043	0.3763290	0	0	0.1307094	0.1307094	0	0.0306380	0.0306380		117.66247	117.66247	0.0013227	0.0047399	0.0083402	119.11638324127362
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Average Daily																		
Worker	0.0037206	0.0031492	0.0031227	0.0475848	0	0	0.0155584	0.0155584	0	0.0036437	0.0036437		14.377724	14.377724	0.0001594	0.0005713	0.0168034	14.568788262902148
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Annual																		
Worker	0.0006790	0.0005747	0.0005698	0.0086842	0	0	0.0028394	0.0028394	0	0.0006649	0.0006649		2.3803963	2.3803963	0.0000264	0.0000946	0.0027820	2.412029155119379
Vendor	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1 Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetation	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.2 Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Total																		
Daily, Winter (Max)																		
Total																		
Annual																		
Total																		

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.3 Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	R	CO_2e
Daily, Summer (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Daily, Winter (Max)																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		
Annual																		
Avoided																		
Subtotal																		
Sequestered																		
Subtotal																		
Removed																		
Subtotal																		

5. Activity Data

5.1 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Roadway Concrete Paving - Material Trucks	Site Preparation	3/24/2029	3/27/2029	5	2	
Roadway Concrete Paving	Paving	3/24/2029	5/24/2029	5	44	

5.2. Off-Road Equipment

5.2.1 Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Roadway Concrete Paving	Cement and Mortar Mixers	Diesel	Average	2	8	10	0.56
Roadway Concrete Paving	Pumps	Diesel	Average	1	8	11	0.74
Roadway Concrete Paving	Sweepers/Scrubbers	Diesel	Average	1	8	36	0.46

5.3. Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Roadway Concrete Paving - Material Trucks	Worker	0	18.5	LDA,LDT1,LDT2
Roadway Concrete Paving - Material Trucks	Vendor	0	10.2	HHDT,MHDT
Roadway Concrete Paving - Material Trucks	Hauling	2	25	HHDT
Roadway Concrete Paving - Material Trucks	Onsite truck			HHDT
Roadway Concrete Paving	Worker	10	18.5	LDA,LDT1,LDT2
Roadway Concrete Paving	Vendor		10.2	HHDT,MHDT
Roadway Concrete Paving	Hauling	0	25	HHDT
Roadway Concrete Paving	Onsite truck			HHDT

5.6. Dust Mitigation

5.6.1 Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Roadway Concrete Paving - Material Trucks	0	0	0	0	0

5.6. Dust Mitigation

5.6.2 Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74	74

5. Activity Data

5.8 Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2029	0	531.983	0.033	0.0040000000189989805

5.18.1. Land Use Change

5.18.1.1 Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1 Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1 Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report
6.1 Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme H	9.54	annual days of extreme heat
Extreme Precipitation	3.6	annual days with precipitation above 20 mm
Sea Level Rise		meters of inundation depth
Wildfire	0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events.

Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are:

No rise,
0.5 meter,
1.0 meter,
1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are:

Warmer/drier (HadGEM2-ES),
Cooler/wetter (CNRM-CM5),
Average conditions (CanESM2),
Range of different rainfall and temperature possibilities (MIROC5).

Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6. Climate Risk Detailed Report

6.2 Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6. Climate Risk Detailed Report

6.3 Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1 CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	58.2327318
AQ-PM	68.6869944
AQ-DPM	84.23148724
Drinking Water	53.19095791
Lead Risk Housing	28.73345936
Pesticides	11.82758621
Toxic Releases	91.38534634
Traffic	88.9375
Effect Indicators	
CleanUp Sites	97.25643897
Groundwater	99.02042172
Haz Waste Facilities/Generators	98.38517538
Impaired Water Bodies	82.96934061
Solid Waste	97.70904926
Sensitive Population	
Asthma	16.96161515
Cardio-vascular	20.77517448
Low Birth Weights	54.84988453
Socioeconomic Factor Indicators	
Education	49.19007846
Housing	39.20152091
Linguistic	59.37203952
Poverty	55.50251256
Unemployment	5.570015617

7.2 Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	
Above Poverty	47.45284229
Employed	76.27357885
Median HI	69.01065058
Education	
Bachelor's or higher	70.42217375
High school enrollment	100
Preschool enrollment	16.21968433
Transportation	
Auto Access	57.21801617
Active commuting	69.0619787
Social	
2-parent households	42.17887848
Voting	31.99024766
Neighborhood	
Alcohol availability	44.80944437
Park access	28.53843193
Retail density	94.63621199
Supermarket access	58.28307455
Tree canopy	29.41100988
Housing	
Homeownership	19.54317978
Housing habitability	30.20659566
Low-inc homeowner severe housing cost burden	97.88271526
Low-inc renter severe housing cost burden	75.33684075
Uncrowded housing	22.40472219
Health Outcomes	
Insured adults	50.3143847
Arthritis	99
Asthma ER Admissions	83
High Blood Pressure	99
Cancer (excluding skin)	96
Asthma	66
Coronary Heart Disease	99
Chronic Obstructive Pulmonary Disease	95
Diagnosed Diabetes	99
Life Expectancy at Birth	99
Cognitively Disabled	52
Physically Disabled	82
Heart Attack ER Admissions	76
Mental Health Not Good	59
Chronic Kidney Disease	99
Obesity	95
Pedestrian Injuries	73
Physical Health Not Good	93
Stroke	98
Health Risk Behaviors	
Binge Drinking	4
Current Smoker	42
No Leisure Time for Physical Activity	69
Climate Change Exposures	
Wildfire Risk	0
SLR Inundation Area	0
Children	25
Elderly	83
English Speaking	50
Foreign-born	81
Outdoor Workers	61
Climate Change Adaptive Capacity	
Impervious Surface Cover	18
Traffic Density	93
Traffic Access	65
Other Indices	
Hardship	53
Other Decision Support	
2016 Voting	59

7. Health and Equity Details

7.3 Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	64
Healthy Places Index Score for Project Location (b)	56
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

8. User Changes to Default Data

8.1 Justifications

Screen	Justification
Construction: Construction Phases	see assumptions sheet
Construction: Off-Road Equipment	see assumptions sheet
Construction: Trips and VMT	See assumptions sheet

8.4. Construction

8.4.6 Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Roadway Concrete Paving - Material Trucks	Hauling	One-Way Trips per Day	0	2
Roadway Concrete Paving - Material Trucks	Hauling	Miles per Trip	20	25
Roadway Concrete Paving	Hauling	Miles per Trip	20	25