

City Commons, Costa Mesa CalEEMod2013.2.2 Summary

Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Demolition (20 days) 8,000 sf demo	1 Concrete Saw
	3 Loader/Backhoes
	1 Dozer
Grading (4 days) 2,000 cy Import	1 Grader
	1 Dozer
	1 Loader/Backhoe
Construction (200 days)	1 Crane
	1 Forklift
	1 Generator Set
	3 Welders
	1 Loader/Backhoe
Paving (10 days)	1 Cement Mixer
	1 Paving Equipment
	1 Paver
	1 Loader/Backhoe
	1 Roller

Worst case daily construction emissions are calculated by CalEEMod 2013.2.2

**Construction Activity Emissions
Maximum Daily Emissions (pounds/day)**

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
2015						
Unmitigated	39.8	41.5	27.9	0.1	7.7	4.2
Mitigated**	39.8	41.5	27.8	0.1	4.6	2.7
SCAQMD Thresholds	75	100	550	150	150	55

**water exposed surfaces three times daily

Daily Operational Impacts

Source	Operational Emissions (lbs/day)						
	ROG	NOx	CO	SO₂	PM-10	PM-2.5	CO₂
Area	8.5	0.2	16.4	0.0	2.2	2.2	792.5
Energy	0.0	0.2	0.1	0.0	0.0	0.0	262.3
Mobile	1.0	2.5	12.1	0.0	2.1	0.6	2,535.7
Total	9.5	2.9	28.6	0.1	4.2	2.7	3,590.4
SCAQMD Threshold	55	55	550	150	150	55	-
Exceeds Threshold?	No	No	No	No	No	No	NA

GHG

Construction Emissions (Metric Tons CO₂(e))

	CO ₂ (e)
Year 2015	248.8
Amortized	8.3

Operational Emissions

Consumption Source	MT CO ₂ (e) tons/year
Area Sources	9.4
Energy Utilization	100.4
Mobile Source	382.6
Solid Waste Generation	14.9
Water Consumption	12.8
Annualized Construction	8.3
Total	528.4
Significance Threshold	3,000

LST

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2 and 5 acre sites for varying distances. Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, the following tables should be used to determine the maximum daily disturbed-acreage for comparison to LSTs.

Maximum Daily Disturbed Acreage per Equipment Type

Equipment Type	Acres/8-hr-day
Crawler Tractor	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

The proposed project will result in 1.0 disturbed daily acre during peak construction grading activity:

(1 dozer x 0.5 + 1 grader x 0.5 = 1.0 acre disturbed).

The following thresholds and emissions are therefore determined (pounds per day):

LST and Project Emissions (pounds/day)

LST 1.0 acres/ 25 meters North Coastal Orange County	CO	NOx	PM-10	PM-2.5
Max On-Site Emissions *	647	92	4	3
Demolition				
Unmitigated	22	30	2	2
Mitigated**	22	30	2	2
Grading				
Unmitigated	14	22	6	4
Mitigated**	14	22	3	2
Construction				
Unmitigated	15	22	1	1
Mitigated**	15	22	1	1
Paving				
Unmitigated	9	15	1	1
Mitigated**	9	15	1	1

*excludes construction commuting, vendor deliveries and emissions associated with grading haul trucking.

**water exposed surfaces three times per day

With application of dust suppression mitigation emissions are below the LST for construction.