

RAP – ASCON LANDFILL SITE

Draft EIR

Greenhouse Gas Assessment Files

Provided by PCR Services Corporation

- Greenhouse Gas Emissions

Appendix

Greenhouse Gas Emissions

- Emissions Calculation Files
 - Trucks Travelling Outside of South Coast Air Basin
 - Short-Term GHG Emissions (Equipment and Trucks) are provided in Appendix B (Air Quality)
- Long-Term Emissions
 - Landfill Gas Generation
 - CalEEMod Output – Worker Commute
 - GHG Analysis

ASCON RAP - Emissions Inventory

GHG Emissions

Assumptions

Parameter	Value	Notes
Non-Export Truck Travel Distance (mi)	50	Assumed round trip for non-export trucks (fuel, material delivery, soil import, etc.)
Truck Idle Time (hours)	0.417	Idle time per truck arriving/departing site. (25 minutes/60 minutes/hr)
Employee/Worker Trip Distance	21.6	CalEEMod Default Construction Worker Trip (Round Trip) (mi)

Emission Factors

Veh_Class	Fuel	MdlYr	Run (lbs/mi)	Idle (g/hr)
			CO2 (Pav)	CO2 (Pav)
LDA/LDT	All	All	7.61E-01	
T7 single construction	DSL	ALL	3.77E+00	6.76E+03
T7 single construction	DSL	2007+	3.77E+00	6.86E+03

Vehicle Trips

Parameter	Value	Notes
One Way Truck Trips - Waste	4830	Table 5-2. ASCON Draft RAP, June 2013. Alt 4
One Way Truck Trips - Import	24700	Table 5-2. ASCON Draft RAP, June 2013. Alt 4
Round Trips - Waste	2415	
Round Trips - Import	12350	

Emissions Calculations

Export Trips				
Scenario -->	Kettleman	Copper Mountain	Clean Harbors	US Ecology
Export Trip Length (mi)				
South Coast Air Basin	220	300	136	136
San Joaquin Valley Air Basin	208			
Salton Sea Air Basin		232		
Mohave Desert Air Basin			332	312
Great Basin Valleys Air Basin				96
Total Export Trip Length (mi)	428	532	468	544
Total Export Trips	2415	2415	2415	2415
Total Export VMT (mi)	1,033,620	1,284,780	1,130,220	1,313,760
Import Trips				
Import Trip Length (mi)	50	50	50	50
Total Import Trips	12350	12350	12350	12350
Total Import VMT (mi)	617,500	617,500	617,500	617,500
Delivery Trips				
Delivery Trip Length (mi)	50	50	50	50
Total Delivery Trips ^a	2500	2500	2500	2500
Total Delivery VMT (mi)	125,000	125,000	125,000	125,000
Total Haul Truck VMT	1,776,120	2,027,280	1,872,720	2,056,260
Run Emission Factor (lb/mi)	4	4	4	4
Haul Truck Run Emissions (lbs)	6,702,822	7,650,664	7,067,377	7,760,031
Haul Truck Run Emissions (tons)	3,351	3,825	3,534	3,880
Total Haul Truck Trips	14,765	14,765	14,765	14,765
Total Idle Time (hr)	6,152	6,152	6,152	6,152
Idle Emission Factor (g/hr)	6,762	6,762	6,762	6,762
Total Idle Emissions (lbs)	91,727	91,727	91,727	91,727
Total Idle Emissions (tons)	46	46	46	46
Total Employee and Visitor Trip VMT (mi) ^b	196,560	196,560	196,560	196,560
Employee Trip Emission Factor (lb/mi)	7.61E-01	7.61E-01	7.61E-01	7.61E-01
Total Employee Trip Emissions (lbs)	149,614	149,614	149,614	149,614
Total Employee Trip Emissions (tons)	75	75	75	75
Total Vehicle CO ₂ Emissions (tons)	3,472	3,946	3,654	4,001
Total On-site CO ₂ Emissions (tons)	2,138	2,138	2,138	2,138
Total CO ₂ Emissions (tons)	5,610	6,084	5,792	6,139
Total methane (tons)	56	61	58	61
Total CO ₂ e Emissions (tons)	6,788	7,362	7,009	7,428

^a Assumes 10 per day x 250 workdays per year

^b Please see Air Quality Appendix, Offsite (Truck) Emissions Calculations

RAP - ASCON Landfill Site
 GHG Emissions
 Long-Term Emissions
 Project Landfill Gas Generation

Taken from ASCON Landfill Site Revised Landfill Gas Emissions Evaluation ¹		Calculated	
Density, methane (lb/ft ³)	0.0417	Mass Emission Rate - Existing Site (lb/day)	22.82
Emissions Rate - Existing Site, 2013	0.38	Mass Emissions -Existing Site (MT/yr)	3.78
Emission Rate - Geomembrane, Top (cfm)	0.36		
Emission Rate - ET Cover, Side Slopes (cfm)	0.01	Mass Emission Rate - Geomembrane, Top (lb/day)	21.62
LFG Capture Rate	75%	Mass Emission Rate - ET Cover, Side Slopes (lb/day)	0.60
Methane Oxidation Rate	10%	Mass Emissions - Geomembrane, Top (MT/yr)	3.58
Wind Speed (mph)	2.16	Mass Emissions - ET Cover, Side Slopes (MT/yr)	0.10
Methane Fraction of LFG	24%	Total Project Emissions (MT/yr)	3.68
Max Model Output - Methane at Top Surface (ppm)	0.0092		
Max Model Output - Methane at Side Slopes (ppm)	11.1		

¹ *Geosyntec Consultants, Ascon Landfill Site Revised Landfill Gas Emissions Evaluation, April 2013*

Ascon Ops - Worker Commute
South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	38	Acre

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Utility Company	Los Angeles Department of Water & Power
Climate Zone	8	Precipitation Freq (Days)	31		

1.3 User Entered Comments

- Project Characteristics -
- Land Use - Ascon Landfill
- Vehicle Trips - Worker trip once per month
- Water And Wastewater - Ascon landfill
- Solid Waste - Ascon landfill

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

RAP - ASCON Landfill Site
 GHG Emissions
 Long-Term Emissions
 CalEEMod Output - Worker Commute

Category	tons/yr										MT/yr					
	Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	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
Mobile	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	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
Energy	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
Mobile	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

RAP - ASCON Landfill Site
 GHG Emissions
 Long-Term Emissions
 CalEEMod Output - Worker Commute

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13
Unmitigated	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.00	0.00	1.13
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	1.14	0.00	0.00	2,323	2,323
Total	1.14	0.00	0.00	2,323	2,323

4.3 Trip Type Information

Land Use	Miles			Trip %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00

RAP - ASCON Landfill Site
 GHG Emissions
 Long-Term Emissions
 GHG Analysis

Proposed Project Annual Long-Term Emissions - 2015	
Emission Source	CO₂e^a (Metric Tons)
On-road Vehicles ^b	1.1
Electricity	0
Natural gas	0
Water Conveyance	0
Waste	0
Landfill Gas	3.7
Project Total	4.8
Landfill Gas - Existing Site	3.8
Existing Total	4.9
Emissions	0.1
GHG Threshold	
Metric Tons (CO ₂ e)	10,000
Above the threshold?	No
^a Numbers may not add up exactly due to rounding.	
^b Mobile source values were derived using CalEEMod.	
Sources: PCR Services Corporation, 2013.	