

APPENDIX D

Energy Calculations

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Riverfront Apartments Project - Existing Uses to be Demolished - Santa Cruz County, Annual

**Riverfront Apartments Project - Existing Uses to be Demolished
Santa Cruz County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	1.44	1000sqft	0.03	1,440.00	0
Health Club	2.20	1000sqft	0.05	2,200.00	0
Health Club	3.70	1000sqft	0.08	3,700.00	0
General Office Building	0.75	1000sqft	0.02	750.00	0
Health Club	3.20	1000sqft	0.07	3,200.00	0
Strip Mall	1.70	1000sqft	0.04	1,702.00	0
Strip Mall	2.00	1000sqft	0.05	2,000.00	0
Strip Mall	2.00	1000sqft	0.05	2,000.00	0
Strip Mall	3.50	1000sqft	0.08	3,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Modeling operations only for energy analysis
 Land Use - Existing uses based on traffic report

Construction Phase - N/A

Off-road Equipment - Modeling existing operations only

Trips and VMT - Modeling existing operations only

Architectural Coating - Modeling existing operations only

Vehicle Trips - Trip rates adjusted to match trip generation provided for the project. Health club and strip mall uses were based on weighted average trip rates.

Energy Use - Historical data option selected, assuming uses to be demolished were constructed pre-2005

Water And Wastewater - Default water/wastewater assumed

Solid Waste - Default solid waste assumed

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	10,246.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	30,738.00	0.00
tblConstructionPhase	PhaseEndDate	5/20/2020	12/6/2019
tblConstructionPhase	PhaseStartDate	5/14/2020	12/1/2019
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblTripsAndVMT	WorkerTripNumber	2.00	0.00
tblVehicleTrips	ST_TR	2.46	2.50
tblVehicleTrips	ST_TR	20.87	19.47
tblVehicleTrips	ST_TR	158.37	84.07
tblVehicleTrips	ST_TR	42.04	16.58
tblVehicleTrips	SU_TR	1.05	1.07
tblVehicleTrips	SU_TR	26.73	24.94
tblVehicleTrips	SU_TR	131.84	69.99
tblVehicleTrips	SU_TR	20.43	8.06
tblVehicleTrips	WD_TR	11.03	11.20
tblVehicleTrips	WD_TR	32.93	30.73
tblVehicleTrips	WD_TR	127.15	67.50
tblVehicleTrips	WD_TR	44.32	17.47

2.0 Emissions Summary

2.1 Overall Construction
Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	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
Percent Reduction	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004
Energy	3.0100e-003	0.0274	0.0230	1.6000e-004		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003	0.0000	101.3034	101.3034	3.8000e-003	1.2200e-003	101.7607
Mobile	0.1918	0.6009	1.9812	3.7800e-003	0.3001	5.6800e-003	0.3058	0.0806	5.3500e-003	0.0860	0.0000	343.9943	343.9943	0.0202	0.0000	344.5002
Waste						0.0000	0.0000		0.0000	0.0000	16.1114	0.0000	16.1114	0.9522	0.0000	39.9153
Water						0.0000	0.0000		0.0000	0.0000	0.5679	3.6905	4.2584	0.0585	1.4100e-003	6.1415
Total	0.2891	0.6283	2.0044	3.9400e-003	0.3001	7.7600e-003	0.3078	0.0806	7.4300e-003	0.0881	16.6793	448.9888	465.6681	1.0347	2.6300e-003	492.3183

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	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004
Energy	3.0100e-003	0.0274	0.0230	1.6000e-004		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003	0.0000	101.3034	101.3034	3.8000e-003	1.2200e-003	101.7607
Mobile	0.1918	0.6009	1.9812	3.7800e-003	0.3001	5.6800e-003	0.3058	0.0806	5.3500e-003	0.0860	0.0000	343.9943	343.9943	0.0202	0.0000	344.5002
Waste						0.0000	0.0000		0.0000	0.0000	16.1114	0.0000	16.1114	0.9522	0.0000	39.9153
Water						0.0000	0.0000		0.0000	0.0000	0.5679	3.6905	4.2584	0.0585	1.4100e-003	6.1415
Total	0.2891	0.6283	2.0044	3.9400e-003	0.3001	7.7600e-003	0.3078	0.0806	7.4300e-003	0.0881	16.6793	448.9888	465.6681	1.0347	2.6300e-003	492.3183

	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
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Percent Reduction	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
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3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/1/2019	12/6/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2019

Unmitigated Construction On-Site

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					
Archit. Coating	0.0000						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

	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					
Archit. Coating	0.0000						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.1918	0.6009	1.9812	3.7800e-003	0.3001	5.6800e-003	0.3058	0.0806	5.3500e-003	0.0860	0.0000	343.9943	343.9943	0.0202	0.0000	344.5002
Unmitigated	0.1918	0.6009	1.9812	3.7800e-003	0.3001	5.6800e-003	0.3058	0.0806	5.3500e-003	0.0860	0.0000	343.9943	343.9943	0.0202	0.0000	344.5002

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated
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Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	8.40	1.88	0.80	15,253	15,253
Health Club	67.61	42.83	54.87	107,543	107,543
Health Club	113.70	72.04	92.28	180,867	180,867
Health Club	98.34	62.30	79.81	156,426	156,426
High Turnover (Sit Down Restaurant)	97.20	121.06	100.79	117,327	117,327
Strip Mall	29.73	28.22	13.72	41,934	41,934
Strip Mall	34.94	33.16	16.12	49,277	49,277
Strip Mall	34.94	33.16	16.12	49,277	49,277
Strip Mall	61.15	58.03	28.21	86,234	86,234
Total	546.00	452.68	402.71	804,138	804,138

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High Turnover (Sit Down)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.557028	0.032772	0.207243	0.127242	0.025046	0.005504	0.020477	0.011535	0.001236	0.003217	0.006345	0.001014	0.001340
Health Club	0.557028	0.032772	0.207243	0.127242	0.025046	0.005504	0.020477	0.011535	0.001236	0.003217	0.006345	0.001014	0.001340
High Turnover (Sit Down Restaurant)	0.557028	0.032772	0.207243	0.127242	0.025046	0.005504	0.020477	0.011535	0.001236	0.003217	0.006345	0.001014	0.001340
Strip Mall	0.557028	0.032772	0.207243	0.127242	0.025046	0.005504	0.020477	0.011535	0.001236	0.003217	0.006345	0.001014	0.001340

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	71.4935	71.4935	3.2300e-003	6.7000e-004	71.7736
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	71.4935	71.4935	3.2300e-003	6.7000e-004	71.7736
NaturalGas Mitigated	3.0100e-003	0.0274	0.0230	1.6000e-004	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	29.8099	29.8099	5.7000e-004	5.5000e-004	29.9871
NaturalGas Unmitigated	3.0100e-003	0.0274	0.0230	1.6000e-004	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	29.8099	29.8099	5.7000e-004	5.5000e-004	29.9871

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	17692.5	1.0000e-004	8.7000e-004	7.3000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9441	0.9441	2.0000e-005	2.0000e-005	0.9498
Health Club	59312	3.2000e-004	2.9100e-003	2.4400e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1651	3.1651	6.0000e-005	6.0000e-005	3.1839
Health Club	86272	4.7000e-004	4.2300e-003	3.5500e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6038	4.6038	9.0000e-005	8.0000e-005	4.6312
Health Club	99752	5.4000e-004	4.8900e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3232	5.3232	1.0000e-004	1.0000e-004	5.3548
High Turnover (Sit Down Restaurant)	246082	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1319	13.1319	2.5000e-004	2.4000e-004	13.2099
Strip Mall	10760	1.2000e-004	1.0500e-003	8.9000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1484	1.1484	2.0000e-005	2.0000e-005	1.1552
Strip Mall	18830	1.0000e-004	9.2000e-004	7.8000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0048	1.0048	2.0000e-005	2.0000e-005	1.0108
Strip Mall	9156.76	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4886	0.4886	1.0000e-005	1.0000e-005	0.4915

Total		3.0300e-003	0.0274	0.0230	1.8000e-004		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003	0.0000	29.8099	29.8099	5.7000e-004	5.5000e-004	29.9871
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Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	17692.5	1.0000e-004	8.7000e-004	7.3000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9441	0.9441	2.0000e-005	2.0000e-005	0.9498
Health Club	59312	3.2000e-004	2.9100e-003	2.4400e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1651	3.1651	6.0000e-005	6.0000e-005	3.1839
Health Club	86272	4.7000e-004	4.2300e-003	3.5500e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6038	4.6038	9.0000e-005	8.0000e-005	4.6312
Health Club	99752	5.4000e-004	4.8900e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3232	5.3232	1.0000e-004	1.0000e-004	5.3548
High Turnover (Sit Down Restaurant)	246082	1.3300e-003	0.0121	0.0101	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.1319	13.1319	2.5000e-004	2.4000e-004	13.2099
Strip Mall	10760	1.2000e-004	1.0500e-003	8.9000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1484	1.1484	2.0000e-005	2.0000e-005	1.1552
Strip Mall	18830	1.0000e-004	9.2000e-004	7.8000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0048	1.0048	2.0000e-005	2.0000e-005	1.0108
Strip Mall	9156.76	5.0000e-005	4.5000e-004	3.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4886	0.4886	1.0000e-005	1.0000e-005	0.4915
Total		3.0300e-003	0.0274	0.0230	1.8000e-004		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003	0.0000	29.8099	29.8099	5.7000e-004	5.5000e-004	29.9871

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	10920	3.1768	1.4000e-004	3.0000e-005	3.1892
Health Club	19030	5.5361	2.5000e-004	5.0000e-005	5.5577

Health Club	27680	8.0524	3.6000e-004	8.0000e-005	8.0840
Health Club	32005	9.3106	4.2000e-004	9.0000e-005	9.3471
High Turnover (Sit Down Restaurant)	44409.6	12.9193	5.8000e-004	1.2000e-004	12.9699
Strip Mall	20662.3	6.0109	2.7000e-004	6.0000e-005	6.0345
Strip Mall	24280	14.1267	6.4000e-004	1.3000e-004	14.1820
Strip Mall	42490	12.3608	5.6000e-004	1.2000e-004	12.4093
Total		71.4935	3.2200e-003	6.8000e-004	71.7736

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	10920	3.1768	1.4000e-004	3.0000e-005	3.1892
Health Club	19030	5.5361	2.5000e-004	5.0000e-005	5.5577
Health Club	27680	8.0524	3.6000e-004	8.0000e-005	8.0840
Health Club	32005	9.3106	4.2000e-004	9.0000e-005	9.3471
High Turnover (Sit Down Restaurant)	44409.6	12.9193	5.8000e-004	1.2000e-004	12.9699
Strip Mall	20662.3	6.0109	2.7000e-004	6.0000e-005	6.0345
Strip Mall	24280	14.1267	6.4000e-004	1.3000e-004	14.1820
Strip Mall	42490	12.3608	5.6000e-004	1.2000e-004	12.4093
Total		71.4935	3.2200e-003	6.8000e-004	71.7736

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004
Unmitigated	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0143					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0800					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004
Total	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0143					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0800					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004
Total	0.0943	0.0000	2.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.1000e-004	5.1000e-004	0.0000	0.0000	5.4000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.2584	0.0585	1.4100e-003	6.1415
Unmitigated	4.2584	0.0585	1.4100e-003	6.1415

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

General Office Building	0.1333 / 0.0817002	0.3353	4.3600e-003	1.1000e-004	0.4756
Health Club	0.538203 / 0.329866	1.3538	0.0176	4.3000e-004	1.9203
High Turnover (Sit Down Restaurant)	0.437089 / 0.0278993	0.8551	0.0143	3.4000e-004	1.3142
Strip Mall	0.681467 / 0.417673	1.7142	0.0223	5.4000e-004	2.4314
Total		4.2584	0.0585	1.4200e-003	6.1415

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.1333 / 0.0817002	0.3353	4.3600e-003	1.1000e-004	0.4756
Health Club	0.538203 / 0.329866	1.3538	0.0176	4.3000e-004	1.9203
High Turnover (Sit Down Restaurant)	0.437089 / 0.0278993	0.8551	0.0143	3.4000e-004	1.3142
Strip Mall	0.681467 / 0.417673	1.7142	0.0223	5.4000e-004	2.4314
Total		4.2584	0.0585	1.4200e-003	6.1415

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
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	MT/yr			
Mitigated	16.1114	0.9522	0.0000	39.9153
Unmitigated	16.1114	0.9522	0.0000	39.9153

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.7	0.1421	8.4000e-003	0.0000	0.3520
Health Club	51.87	10.5291	0.6223	0.0000	26.0855
High Turnover (Sit Down Restaurant)	17.14	3.4793	0.2056	0.0000	8.6197
Strip Mall	9.66	1.9609	0.1159	0.0000	4.8580
Total		16.1114	0.9522	0.0000	39.9153

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.7	0.1421	8.4000e-003	0.0000	0.3520
Health Club	51.87	10.5291	0.6223	0.0000	26.0855
High Turnover (Sit Down Restaurant)	17.14	3.4793	0.2056	0.0000	8.6197

Strip Mall	9.66	1.9609	0.1159	0.0000	4.8580
Total		16.1114	0.9522	0.0000	39.9153

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Riverfront Apartments Project - Santa Cruz County, Annual

**Riverfront Apartments Project
Santa Cruz County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	38.46	1000sqft	0.00	38,458.00	0
Condo/Townhouse	175.00	Dwelling Unit	1.30	138,738.00	320
Strip Mall	11.50	1000sqft	0.00	11,498.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	1.8	Precipitation Freq (Days)	61
Climate Zone	5			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Construction anticipated to begin December 2020
- Land Use - Proposed uses based on traffic report and project description
- Construction Phase - Default construction schedule assumed based on land uses
- Off-road Equipment - Default equipment
- Off-road Equipment - Default equipment
- Off-road Equipment - Default equipment
- Off-road Equipment - Default equipment
- Off-road Equipment - Default equipment

Off-road Equipment - Default equipment

Trips and VMT - Default

Demolition - Tons of debris based on total building demolition of 20,821 SF and parking lot demolition of 21,746 SF

Grading - Import/export volumes provided by applicant

Architectural Coating - Default

Vehicle Trips - Adjusted trip rates based on traffic report

Woodstoves - No fireplaces will be installed

Area Coating - Default

Energy Use - Default

Fleet Mix - Default

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	175.00	0.00
tblFireplaces	NumberNoFireplace	0.00	175.00
tblGrading	AcresOfGrading	1.50	1.30
tblGrading	AcresOfGrading	1.00	1.30
tblGrading	MaterialExported	0.00	16,500.00
tblGrading	MaterialImported	0.00	3,500.00
tblLandUse	LandUseSquareFeet	38,460.00	38,458.00
tblLandUse	LandUseSquareFeet	175,000.00	138,738.00
tblLandUse	LandUseSquareFeet	11,500.00	11,498.00
tblLandUse	LotAcreage	0.88	0.00
tblLandUse	LotAcreage	10.94	1.30
tblLandUse	LotAcreage	0.26	0.00
tblLandUse	Population	501.00	320.00
tblTripsAndVMT	HaulingTripNumber	2,063.00	2,062.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblVehicleTrips	ST_TR	5.67	3.19
tblVehicleTrips	ST_TR	42.04	68.41
tblVehicleTrips	SU_TR	4.84	2.72

tblVehicleTrips	SU_TR	20.43	33.24
tblVehicleTrips	WD_TR	5.81	3.26
tblVehicleTrips	WD_TR	44.32	72.12

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2020	0.0287	0.4270	0.2038	7.2000e-004	0.0451	0.0135	0.0586	0.0119	0.0126	0.0245	0.0000	67.3259	67.3259	7.8900e-003	0.0000	67.5230
2021	1.2218	2.0636	1.9935	4.8200e-003	0.1593	0.0750	0.2342	0.0445	0.0722	0.1167	0.0000	425.6068	425.6068	0.0443	0.0000	426.7150
Maximum	1.2218	2.0636	1.9935	4.8200e-003	0.1593	0.0750	0.2342	0.0445	0.0722	0.1167	0.0000	425.6068	425.6068	0.0443	0.0000	426.7150

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2020	0.0287	0.4270	0.2038	7.2000e-004	0.0451	0.0135	0.0586	0.0119	0.0126	0.0245	0.0000	67.3259	67.3259	7.8900e-003	0.0000	67.5230
2021	1.2218	2.0636	1.9935	4.8200e-003	0.1593	0.0750	0.2342	0.0445	0.0722	0.1167	0.0000	425.6065	425.6065	0.0443	0.0000	426.7147
Maximum	1.2218	2.0636	1.9935	4.8200e-003	0.1593	0.0750	0.2342	0.0445	0.0722	0.1167	0.0000	425.6065	425.6065	0.0443	0.0000	426.7147

	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
Percent Reduction	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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
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1	12-1-2020	2-28-2021	1.1163	1.1163
2	3-1-2021	5-31-2021	0.6560	0.6560
3	6-1-2021	8-31-2021	0.6536	0.6536
4	9-1-2021	9-30-2021	0.2131	0.2131
		Highest	1.1163	1.1163

2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204
Energy	0.0217	0.1858	0.0801	1.1800e-003		0.0150	0.0150		0.0150	0.0150	0.0000	570.1846	570.1846	0.0202	7.2600e-003	572.8539
Mobile	0.4506	1.5648	5.0728	0.0121	1.0323	0.0141	1.0464	0.2772	0.0133	0.2905	0.0000	1,101.8008	1,101.8008	0.0547	0.0000	1,103.1691
Waste						0.0000	0.0000		0.0000	0.0000	18.7929	0.0000	18.7929	1.1106	0.0000	46.5586
Water						0.0000	0.0000		0.0000	0.0000	3.8876	27.1395	31.0271	0.4005	9.6800e-003	43.9252
Total	1.2118	1.7714	6.9602	0.0134	1.0323	0.0391	1.0714	0.2772	0.0382	0.3154	22.6805	1,702.0741	1,724.7546	1.5889	0.0169	1,769.5273

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	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204
Energy	0.0217	0.1858	0.0801	1.1800e-003		0.0150	0.0150		0.0150	0.0150	0.0000	570.1846	570.1846	0.0202	7.2600e-003	572.8539

Mobile	0.4506	1.5648	5.0728	0.0121	1.0323	0.0141	1.0464	0.2772	0.0133	0.2905	0.0000	1,101.8008	1,101.8008	0.0547	0.0000	1,103.1691
Waste						0.0000	0.0000		0.0000	0.0000	18.7929	0.0000	18.7929	1.1106	0.0000	46.5586
Water						0.0000	0.0000		0.0000	0.0000	3.8876	27.1395	31.0271	0.4005	9.6800e-003	43.9252
Total	1.2118	1.7714	6.9602	0.0134	1.0323	0.0391	1.0714	0.2772	0.0382	0.3154	22.6805	1,702.0741	1,724.7546	1.5889	0.0169	1,769.5273

	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
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2020	12/28/2020	5	20	
2	Site Preparation	Site Preparation	12/29/2020	12/30/2020	5	2	
3	Grading	Grading	12/31/2020	1/5/2021	5	4	
4	Building Construction	Building Construction	1/6/2021	10/12/2021	5	200	
5	Paving	Paving	10/13/2021	10/26/2021	5	10	
6	Architectural Coating	Architectural Coating	10/27/2021	11/9/2021	5	10	

Acres of Grading (Site Preparation Phase): 1.3

Acres of Grading (Grading Phase): 1.3

Acres of Paving: 0

Residential Indoor: 280,944; Residential Outdoor: 93,648; Non-Residential Indoor: 17,247; Non-Residential Outdoor: 5,749; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	143.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	5.00	0.00	438.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	5.00	0.00	2,062.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	146.00	27.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	29.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	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					
Fugitive Dust					0.0153	0.0000	0.0153	2.3100e-003	0.0000	2.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	0.0213	0.2095	0.1466	2.4000e-004	0.0153	0.0115	0.0268	2.3100e-003	0.0108	0.0131	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031

Unmitigated Construction Off-Site

	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					
Hauling	5.8000e-004	0.0249	5.3800e-003	6.0000e-005	1.2000e-003	1.0000e-004	1.3000e-003	3.3000e-004	1.0000e-004	4.3000e-004	0.0000	5.6239	5.6239	2.3000e-004	0.0000	5.6296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	5.4000e-004	4.7900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9483	0.9483	4.0000e-005	0.0000	0.9493
Total	1.1700e-003	0.0255	0.0102	7.0000e-005	2.2300e-003	1.1000e-004	2.3400e-003	6.0000e-004	1.1000e-004	7.1000e-004	0.0000	6.5722	6.5722	2.7000e-004	0.0000	6.5789

Mitigated Construction On-Site

	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					

Fugitive Dust					0.0153	0.0000	0.0153	2.3100e-003	0.0000	2.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	0.0213	0.2095	0.1466	2.4000e-004	0.0153	0.0115	0.0268	2.3100e-003	0.0108	0.0131	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030

Mitigated Construction Off-Site

	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					
Hauling	5.8000e-004	0.0249	5.3800e-003	6.0000e-005	1.2000e-003	1.0000e-004	1.3000e-003	3.3000e-004	1.0000e-004	4.3000e-004	0.0000	5.6239	5.6239	2.3000e-004	0.0000	5.6296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	5.4000e-004	4.7900e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9483	0.9483	4.0000e-005	0.0000	0.9493
Total	1.1700e-003	0.0255	0.0102	7.0000e-005	2.2300e-003	1.1000e-004	2.3400e-003	6.0000e-004	1.1000e-004	7.1000e-004	0.0000	6.5722	6.5722	2.7000e-004	0.0000	6.5789

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	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					
Fugitive Dust					6.1100e-003	0.0000	6.1100e-003	2.9900e-003	0.0000	2.9900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	6.1100e-003	8.2000e-004	6.9300e-003	2.9900e-003	7.6000e-004	3.7500e-003	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249

Unmitigated Construction Off-Site

	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					
Hauling	1.7800e-003	0.0763	0.0165	1.8000e-004	3.6700e-003	3.1000e-004	3.9800e-003	1.0100e-003	3.0000e-004	1.3000e-003	0.0000	17.2256	17.2256	6.9000e-004	0.0000	17.2430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0365	0.0365	0.0000	0.0000	0.0365
Total	1.8000e-003	0.0764	0.0167	1.8000e-004	3.7100e-003	3.1000e-004	4.0200e-003	1.0200e-003	3.0000e-004	1.3100e-003	0.0000	17.2621	17.2621	6.9000e-004	0.0000	17.2795

Mitigated Construction On-Site

	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					
Fugitive Dust					6.1100e-003	0.0000	6.1100e-003	2.9900e-003	0.0000	2.9900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	6.1100e-003	8.2000e-004	6.9300e-003	2.9900e-003	7.6000e-004	3.7500e-003	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249

Mitigated Construction Off-Site

	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					

Hauling	1.7800e-003	0.0763	0.0165	1.8000e-004	3.6700e-003	3.1000e-004	3.9800e-003	1.0100e-003	3.0000e-004	1.3000e-003	0.0000	17.2256	17.2256	6.9000e-004	0.0000	17.2430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0365	0.0365	0.0000	0.0000	0.0365
Total	1.8000e-003	0.0764	0.0167	1.8000e-004	3.7100e-003	3.1000e-004	4.0200e-003	1.0200e-003	3.0000e-004	1.3100e-003	0.0000	17.2621	17.2621	6.9000e-004	0.0000	17.2795

3.4 Grading - 2020

Unmitigated Construction On-Site

	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					
Fugitive Dust					3.6700e-003	0.0000	3.6700e-003	1.4200e-003	0.0000	1.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	7.5400e-003	3.2300e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.1000e-004	3.1000e-004	0.0000	0.6195	0.6195	2.0000e-004	0.0000	0.6245
Total	6.7000e-004	7.5400e-003	3.2300e-003	1.0000e-005	3.6700e-003	3.4000e-004	4.0100e-003	1.4200e-003	3.1000e-004	1.7300e-003	0.0000	0.6195	0.6195	2.0000e-004	0.0000	0.6245

Unmitigated Construction Off-Site

	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					
Hauling	2.1000e-003	0.0898	0.0194	2.1000e-004	0.0141	3.7000e-004	0.0145	3.5900e-003	3.5000e-004	3.9400e-003	0.0000	20.2736	20.2736	8.2000e-004	0.0000	20.2940
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0182	0.0182	0.0000	0.0000	0.0183
Total	2.1100e-003	0.0899	0.0195	2.1000e-004	0.0141	3.7000e-004	0.0145	3.6000e-003	3.5000e-004	3.9500e-003	0.0000	20.2918	20.2918	8.2000e-004	0.0000	20.3123

Mitigated Construction On-Site

	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					
Fugitive Dust					3.6700e-003	0.0000	3.6700e-003	1.4200e-003	0.0000	1.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	7.5400e-003	3.2300e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.1000e-004	3.1000e-004	0.0000	0.6195	0.6195	2.0000e-004	0.0000	0.6245
Total	6.7000e-004	7.5400e-003	3.2300e-003	1.0000e-005	3.6700e-003	3.4000e-004	4.0100e-003	1.4200e-003	3.1000e-004	1.7300e-003	0.0000	0.6195	0.6195	2.0000e-004	0.0000	0.6245

Mitigated Construction Off-Site

	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					
Hauling	2.1000e-003	0.0898	0.0194	2.1000e-004	0.0141	3.7000e-004	0.0145	3.5900e-003	3.5000e-004	3.9400e-003	0.0000	20.2736	20.2736	8.2000e-004	0.0000	20.2940
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0182	0.0182	0.0000	0.0000	0.0183
Total	2.1100e-003	0.0899	0.0195	2.1000e-004	0.0141	3.7000e-004	0.0145	3.6000e-003	3.5000e-004	3.9500e-003	0.0000	20.2918	20.2918	8.2000e-004	0.0000	20.3123

3.4 Grading - 2021

Unmitigated Construction On-Site

	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
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Category	tons/yr										MT/yr					
Fugitive Dust					8.1800e-003	0.0000	8.1800e-003	3.9100e-003	0.0000	3.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9300e-003	0.0215	9.5000e-003	2.0000e-005		9.6000e-004	9.6000e-004		8.8000e-004	8.8000e-004	0.0000	1.8576	1.8576	6.0000e-004	0.0000	1.8726
Total	1.9300e-003	0.0215	9.5000e-003	2.0000e-005	8.1800e-003	9.6000e-004	9.1400e-003	3.9100e-003	8.8000e-004	4.7900e-003	0.0000	1.8576	1.8576	6.0000e-004	0.0000	1.8726

Unmitigated Construction Off-Site

Category	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
	tons/yr										MT/yr					
Hauling	5.9100e-003	0.2466	0.0550	6.2000e-004	0.0162	9.7000e-004	0.0172	4.3600e-003	9.3000e-004	5.2800e-003	0.0000	60.0910	60.0910	2.4300e-003	0.0000	60.1518
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	2.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0533	0.0533	0.0000	0.0000	0.0533
Total	5.9400e-003	0.2466	0.0553	6.2000e-004	0.0163	9.7000e-004	0.0173	4.3800e-003	9.3000e-004	5.3000e-003	0.0000	60.1443	60.1443	2.4300e-003	0.0000	60.2051

Mitigated Construction On-Site

Category	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
	tons/yr										MT/yr					
Fugitive Dust					8.1800e-003	0.0000	8.1800e-003	3.9100e-003	0.0000	3.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9300e-003	0.0215	9.5000e-003	2.0000e-005		9.6000e-004	9.6000e-004		8.8000e-004	8.8000e-004	0.0000	1.8576	1.8576	6.0000e-004	0.0000	1.8726
Total	1.9300e-003	0.0215	9.5000e-003	2.0000e-005	8.1800e-003	9.6000e-004	9.1400e-003	3.9100e-003	8.8000e-004	4.7900e-003	0.0000	1.8576	1.8576	6.0000e-004	0.0000	1.8726

Mitigated Construction Off-Site

	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					
Hauling	5.9100e-003	0.2466	0.0550	6.2000e-004	0.0162	9.7000e-004	0.0172	4.3600e-003	9.3000e-004	5.2800e-003	0.0000	60.0910	60.0910	2.4300e-003	0.0000	60.1518
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	2.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0533	0.0533	0.0000	0.0000	0.0533
Total	5.9400e-003	0.2466	0.0553	6.2000e-004	0.0163	9.7000e-004	0.0173	4.3800e-003	9.3000e-004	5.3000e-003	0.0000	60.1443	60.1443	2.4300e-003	0.0000	60.2051

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	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					
Off-Road	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579
Total	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579

Unmitigated Construction Off-Site

	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
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Category	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5600e-003	0.3306	0.0884	7.3000e-004	0.0177	1.0600e-003	0.0187	5.1000e-003	1.0200e-003	6.1200e-003	0.0000	69.8547	69.8547	2.7800e-003	0.0000	69.9241	
Worker	0.0613	0.0542	0.4905	1.1500e-003	0.1156	9.8000e-004	0.1166	0.0307	9.0000e-004	0.0317	0.0000	103.6590	103.6590	4.1000e-003	0.0000	103.7616	
Total	0.0709	0.3848	0.5789	1.8800e-003	0.1332	2.0400e-003	0.1353	0.0358	1.9200e-003	0.0378	0.0000	173.5137	173.5137	6.8800e-003	0.0000	173.6856	

Mitigated Construction On-Site

Category	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					
Off-Road	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5474	181.5474	0.0324	0.0000	182.3577
Total	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5474	181.5474	0.0324	0.0000	182.3577

Mitigated Construction Off-Site

Category	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.5600e-003	0.3306	0.0884	7.3000e-004	0.0177	1.0600e-003	0.0187	5.1000e-003	1.0200e-003	6.1200e-003	0.0000	69.8547	69.8547	2.7800e-003	0.0000	69.9241
Worker	0.0613	0.0542	0.4905	1.1500e-003	0.1156	9.8000e-004	0.1166	0.0307	9.0000e-004	0.0317	0.0000	103.6590	103.6590	4.1000e-003	0.0000	103.7616

Total	0.0709	0.3848	0.5789	1.8800e-003	0.1332	2.0400e-003	0.1353	0.0358	1.9200e-003	0.0378	0.0000	173.5137	173.5137	6.8800e-003	0.0000	173.6856
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3.6 Paving - 2021

Unmitigated Construction On-Site

	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					
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

Unmitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.9000e-004	1.6800e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3550	0.3550	1.0000e-005	0.0000	0.3554
Total	2.1000e-004	1.9000e-004	1.6800e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3550	0.3550	1.0000e-005	0.0000	0.3554

Mitigated Construction On-Site

	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					
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

Mitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.9000e-004	1.6800e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3550	0.3550	1.0000e-005	0.0000	0.3554
Total	2.1000e-004	1.9000e-004	1.6800e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3550	0.3550	1.0000e-005	0.0000	0.3554

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	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					
Archit. Coating	0.9561					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

Total	0.9572	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
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Unmitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	5.4000e-004	4.8700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0295	1.0295	4.0000e-005	0.0000	1.0305
Total	6.1000e-004	5.4000e-004	4.8700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0295	1.0295	4.0000e-005	0.0000	1.0305

Mitigated Construction On-Site

	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					
Archit. Coating	0.9561					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	0.9572	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

Mitigated Construction Off-Site

	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					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	5.4000e-004	4.8700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0295	1.0295	4.0000e-005	0.0000	1.0305
Total	6.1000e-004	5.4000e-004	4.8700e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.0295	1.0295	4.0000e-005	0.0000	1.0305

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.4506	1.5648	5.0728	0.0121	1.0323	0.0141	1.0464	0.2772	0.0133	0.2905	0.0000	1,101.8008	1,101.8008	0.0547	0.0000	1,103.1691
Unmitigated	0.4506	1.5648	5.0728	0.0121	1.0323	0.0141	1.0464	0.2772	0.0133	0.2905	0.0000	1,101.8008	1,101.8008	0.0547	0.0000	1,103.1691

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Condo/Townhouse	570.50	558.25	476.00	1,599,614	1,599,614
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	829.38	786.72	382.26	1,169,518	1,169,518
Total	1,399.88	1,344.97	858.26	2,769,131	2,769,131

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	44.00	18.80	37.20	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.570244	0.029693	0.206821	0.121238	0.021805	0.005076	0.020849	0.012122	0.001236	0.002827	0.005938	0.001005	0.001145
Enclosed Parking with Elevator	0.570244	0.029693	0.206821	0.121238	0.021805	0.005076	0.020849	0.012122	0.001236	0.002827	0.005938	0.001005	0.001145
Strip Mall	0.570244	0.029693	0.206821	0.121238	0.021805	0.005076	0.020849	0.012122	0.001236	0.002827	0.005938	0.001005	0.001145

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	355.1951	355.1951	0.0161	3.3200e-003	356.5869
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	355.1951	355.1951	0.0161	3.3200e-003	356.5869
NaturalGas Mitigated	0.0217	0.1858	0.0801	1.1800e-003		0.0150	0.0150		0.0150	0.0150	0.0000	214.9895	214.9895	4.1200e-003	3.9400e-003	216.2671
NaturalGas Unmitigated	0.0217	0.1858	0.0801	1.1800e-003		0.0150	0.0150		0.0150	0.0150	0.0000	214.9895	214.9895	4.1200e-003	3.9400e-003	216.2671

5.2 Energy by Land Use - NaturalGas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.97586e+006	0.0214	0.1832	0.0780	1.1700e-003		0.0148	0.0148		0.0148	0.0148	0.0000	212.1670	212.1670	4.0700e-003	3.8900e-003	213.4278
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	52890.8	2.9000e-004	2.5900e-003	2.1800e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8225	2.8225	5.0000e-005	5.0000e-005	2.8392
Total		0.0217	0.1858	0.0801	1.1900e-003		0.0150	0.0150		0.0150	0.0150	0.0000	214.9895	214.9895	4.1200e-003	3.9400e-003	216.2671

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.97586e+006	0.0214	0.1832	0.0780	1.1700e-003		0.0148	0.0148		0.0148	0.0148	0.0000	212.1670	212.1670	4.0700e-003	3.8900e-003	213.4278
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	52890.8	2.9000e-004	2.5900e-003	2.1800e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8225	2.8225	5.0000e-005	5.0000e-005	2.8392
Total		0.0217	0.1858	0.0801	1.1900e-003		0.0150	0.0150		0.0150	0.0150	0.0000	214.9895	214.9895	4.1200e-003	3.9400e-003	216.2671

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
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Land Use	kWh/yr	MT/yr			
Condo/Townhouse	875110	254.5796	0.0115	2.3800e-003	255.5771
Enclosed Parking with Elevator	225364	65.5609	2.9600e-003	6.1000e-004	65.8178
Strip Mall	120499	35.0546	1.5900e-003	3.3000e-004	35.1919
Total		355.1951	0.0161	3.3200e-003	356.5869

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	875110	254.5796	0.0115	2.3800e-003	255.5771
Enclosed Parking with Elevator	225364	65.5609	2.9600e-003	6.1000e-004	65.8178
Strip Mall	120499	35.0546	1.5900e-003	3.3000e-004	35.1919
Total		355.1951	0.0161	3.3200e-003	356.5869

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204
Unmitigated	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0546	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204
Total	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0546	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204

Total	0.7395	0.0208	1.8073	1.0000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003	0.0000	2.9492	2.9492	2.8500e-003	0.0000	3.0204
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7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.0271	0.4005	9.6800e-003	43.9252
Unmitigated	31.0271	0.4005	9.6800e-003	43.9252

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.402 / 7.18819	28.8843	0.3727	9.0100e-003	40.8859
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.851834 / 0.522092	2.1427	0.0278	6.7000e-004	3.0393
Total		31.0271	0.4005	9.6800e-003	43.9252

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.402 / 7.18819	28.8843	0.3727	9.0100e-003	40.8859
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.851834 / 0.522092	2.1427	0.0278	6.7000e-004	3.0393
Total		31.0271	0.4005	9.6800e-003	43.9252

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.7929	1.1106	0.0000	46.5586
Unmitigated	18.7929	1.1106	0.0000	46.5586

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
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Land Use	tons	MT/yr			
Condo/Townhouse	80.5	16.3408	0.9657	0.0000	40.4836
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	12.08	2.4521	0.1449	0.0000	6.0751
Total		18.7929	1.1106	0.0000	46.5586

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	80.5	16.3408	0.9657	0.0000	40.4836
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	12.08	2.4521	0.1449	0.0000	6.0751
Total		18.7929	1.1106	0.0000	46.5586

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Santa Cruz Riverfront Apartments Project
Project Construction Energy Demand

Construction Worker Gasoline Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO ₂ /Gallon	Gallons
Demolition	260	0.95	8.78	108.01
Site Preparation	10	0.04	8.78	4.16
Grading	20	0.07	8.78	8.14
Building Construction	29,200	103.66	8.78	11,806.26
Paving	100	0.36	8.78	40.43
Architectural Coating	290	1.03	8.78	117.26
Total				12,084.26

Construction Vendor Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO ₂ /Gallon	Gallons
Demolition	0	0.00	10.21	0.00
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Building Construction	5,400	69.85	10.21	6,841.79
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
Total				6,841.79

Construction Haul Diesel Demand

Phase	Trips	Vehicle CO ₂ (MT)	Kg CO ₂ /Gallon	Gallons
Demolition	143	5.62	10.21	550.82
Site Preparation	438	17.23	10.21	1,687.13
Grading	2,062	80.36	10.21	7,871.17
Building Construction	0	0.00	10.21	0.00
Paving	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
Total				10,109.12

Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO ₂ (MT)	Kg CO ₂ /Gallon	Gallons
Demolition	5	21.07	10.21	2,063.44
Site Preparation	3	1.51	10.21	148.16
Grading	3	2.48	10.21	242.62
Building Construction	7	181.55	10.21	17,781.35
Paving	5	5.88	10.21	576.15
Architectural Coating	1	1.28	10.21	125.03
Total				20,936.75

Construction Equipment Usage

Phase	Hours of Use
Demolition	800
Site Preparation	46
Grading	76
Building Construction	10,000
Paving	350
Architectural Coating	60
Total	11,332

Santa Cruz Riverfront Apartments Project
Project Operational Energy Demand

Mobile Source Gasoline Demand

Scenario	Vehicle MT CO₂	Kg CO₂/Gallon	Gallons
Existing	323.48	8.78	36,842.83
Project	1,036.62	8.78	118,066.20
Net Increase			81,223.37

Mobile Source Diesel Demand

Scenario	Vehicle MT CO₂	Kg CO₂/Gallon	Gallons
Existing	20.51	10.21	2,009.20
Project	65.18	10.21	6,383.79
Net Increase			4,374.59

Electricity Demand

Scenario	kWh/Year
Existing	254,308.07
Project Consumption	1,580,013.29
Net Increase	1,325,705.23

Natural Gas Demand

Scenario	kBTu/Year
Existing	547,857.26
Project	4,028,750.80
Net Increase	3,480,893.54

Santa Cruz Riverfront Apartments - Construction Assumptions

PhaseName	OffRoadEquipmentType	OffRoadEquipmentU	UsageHours	Days	Total Hours	Pieces of Equ	Equip Hours
Demolition	Concrete/Industrial Saws	1	8	20	160	5	800
Demolition	Rubber Tired Dozers	1	8	20	160		
Demolition	Tractors/Loaders/Backhoes	3	8	20	480		
Site Preparation	Graders	1	8	2	16	3	46
Site Preparation	Rubber Tired Dozers	1	7	2	14		
Site Preparation	Tractors/Loaders/Backhoes	1	8	2	16		
Grading	Graders	1	6	4	24	3	76
Grading	Rubber Tired Dozers	1	6	4	24		
Grading	Tractors/Loaders/Backhoes	1	7	4	28		
Building Construction	Cranes	1	6	200	1200	7	10000
Building Construction	Forklifts	1	6	200	1200		
Building Construction	Generator Sets	1	8	200	1600		
Building Construction	Tractors/Loaders/Backhoes	1	6	200	1200		
Building Construction	Welders	3	8	200	4800		
Paving	Cement and Mortar Mixers	1	6	10	60	5	350
Paving	Pavers	1	6	10	60		
Paving	Paving Equipment	1	8	10	80		
Paving	Rollers	1	7	10	70		
Paving	Tractors/Loaders/Backhoes	1	8	10	80		
Architectural Coating	Air Compressors	1	6	10	60	1	60
					Total		11,332

PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDays	NumDays
Demolition	Demolition	2020/12/01	2020/12/28	5	20
Site Preparation	Site Preparation	2020/12/29	2020/12/30	5	2
Grading	Grading	2020/12/31	2021/01/05	5	4
Building Construction	Building Construction	2021/01/06	2021/10/12	5	200
Paving	Paving	2021/10/13	2021/10/26	5	10
Architectural Coating	Architectural Coating	2021/10/27	2021/11/09	5	10

PhaseName	WorkerTripNumber	VendorTripNumber	HaulingTripNumber	Days	Worker Trips	Vendor Tri	Hauling
Demolition	13	0	143	20	260	0	143
Site Preparation	5	0	438	2	10	0	438
Grading	5	0	2062	4	20	0	2,062
Building Construction	146	27	0	200	29,200	5,400	0
Paving	10	0	0	10	100	0	0
Architectural Coating	29	0	0	10	290	0	0

Santa Cruz Riverfront Apartments Operational Electricity

Total Electricity - Existing	kWh/yr
Existing Buildings	221,476.90
Water/Wastewater	32,831.17
Total	254,308.07

Total Electricity - Project	kWh/yr
Project Buildings	1,220,973.00
Water/Wastewater	359,040.29
Total	1,580,013.29

Electricity Intensity Factors - Water/Wastewater

Process	Units	
Supply	kwh/MG	9,727
Treat	kwh/MG	111
Distribute	kwh/MG	1,272
Wastewater Treatment	kwh/MG	1,911
Total	kwh/MG	13,021

* Electricity intensity factors from CalEEMod Appendix D for Los Angeles County

Electricity Demand - Water/Wastewater

	Units	Potable Water - Indoor	Potable Water - Outdoor	Total
Electricity Intensity Factor				
Supply	kwh/MG	9,727	9,727	N/A
Treat	kwh/MG	111	111	N/A
Distribute	kwh/MG	1,272	1,272	N/A
Wastewater Treatment	kwh/MG	1,911	-	N/A
Total	kwh/MG	13,021	11,110	N/A
Water Consumption - Existing				
Existing	MG/yr	1.79	0.86	2.65
Total	MG/yr	1.8	0.9	2.6
Electricity Usage - Existing	kwh/yr	23,308	9,523	32,831
Water Consumption - Project				
Project Water	MG/yr	12.25	7.71	19.96
Total	MG/yr	12.3	7.7	20.0
Electricity Usage - Project	kwh/yr	285,617	73,424	359,040