

APPENDIX A – Air Quality and GHG Model Printouts



Avalon K-12 School HVAC, ADA, Soil Removal and New Field - Los Angeles-South Coast County, Summer

Avalon K-12 School HVAC, ADA, Soil Removal and New Field
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	49.00	1000sqft	1.12	49,000.00	0
Other Non-Asphalt Surfaces	2.49	Acre	2.49	108,464.40	0
City Park	2.14	Acre	2.14	93,218.40	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2024

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Approx half of 11.5 school site will be disturbed and 49,000 sq ft of building space. Baseball Field Impr (2.14 acre City Park), ADA and soil Removal (Other Non-Asphalt Surfaces)
 Construction Phase - Schedule provided by applicant
 Off-road Equipment - 1 Trencher, 1 Backhoe (T/L/B), 1 Mini Exc (Skid Steer), 1 Water, 1 Flatbed, 1 Cement Truck (3 Off-Hwy Trucks), 1 Crane, 1 Forklift, 1 Generator, 1 Crane, 1 welder
 Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)
 Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)

Off-road Equipment - 1 Trencher, 1 Backhoes (Tractor/Loader/Backhoe), 1 Mini Excavator (Skid Steer Loader), 1 Water Truck and 1 Flatbed Truck (Off-Hwy Trucks), 1 Crane
 Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)
 Grading - Hot Spot Removal 345 cu yd exported, Classroom Soil Remediation 240 cu yd exported, Athletic Field Remediation 1,000 cu yd exported
 Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements
 Trips and VMT - Haul Length of 65 miles from Long Beach Harbor to Simi Valley Landfill

Table Name	Column Name	Default Value	New Value
tbiConstructionPhase	NumDays	10.00	17.00
tbiConstructionPhase	NumDays	20.00	112.00
tbiConstructionPhase	NumDays	230.00	112.00
tbiConstructionPhase	NumDays	20.00	88.00
tbiConstructionPhase	PhaseEndDate	8/14/2019	8/24/2019
tbiConstructionPhase	PhaseEndDate	9/11/2019	8/30/2022
tbiConstructionPhase	PhaseEndDate	8/26/2020	8/30/2022
tbiConstructionPhase	PhaseEndDate	10/9/2019	8/30/2023
tbiConstructionPhase	PhaseStartDate	8/15/2019	3/27/2022
tbiConstructionPhase	PhaseStartDate	10/10/2019	3/27/2022
tbiConstructionPhase	PhaseStartDate	9/12/2019	5/1/2023
tbiGrading	MaterialExported	0.00	240.00
tbiGrading	MaterialExported	0.00	1,000.00
tbiGrading	MaterialExported	0.00	345.00
tbiOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tbiOffRoadEquipment	OffRoadEquipmentType		Cranes
tbiOffRoadEquipment	OffRoadEquipmentType	Cranes	Trenchers
tbiOffRoadEquipment	OffRoadEquipmentType		Trenchers
tbiOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tbiOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tbIOffRoadEquipment	OffRoadEquipmentType			Cranes
tbIOffRoadEquipment	OffRoadEquipmentType			Forklifts
tbIOffRoadEquipment	OffRoadEquipmentType			Generator Sets
tbIOffRoadEquipment	OffRoadEquipmentType			Welders
tbIOffRoadEquipment	OffRoadEquipmentType	Excavators		Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType	Excavators		Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers		Rubber Tired Loaders
tbIOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers		Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType	Welders		Skid Steer Loaders
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00		2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00		2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00		2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		3.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		3.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
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tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00		1.00
tbIOffRoadEquipment	PhaseName			Classroom Upgrades

tbIOffRoadEquipment	PhaseName			Classroom Soil Remediation
tbIOffRoadEquipment	PhaseName			Athletic Field Soil Remediation
tbIOffRoadEquipment	PhaseName			Classroom Upgrades
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
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tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Athletic Field Improvements
tbIOffRoadEquipment	PhaseName			Classroom Soil Remediation
tbIOffRoadEquipment	PhaseName			Athletic Field Soil Remediation
tbIOffRoadEquipment	PhaseName			Hot Spot Removal
tbIOffRoadEquipment	PhaseName		7.00	Classroom Upgrades
tbIOffRoadEquipment	UsageHours		7.00	8.00
tbIOffRoadEquipment	UsageHours		7.00	8.00
tbTripsAndVMT	UsageHours		20.00	65.00
tbTripsAndVMT	Hauling TripLength		20.00	65.00
tbTripsAndVMT	Hauling TripLength		20.00	65.00
tbTripsAndVMT	Hauling TripLength		20.00	65.00
tbTripsAndVMT	Hauling TripLength		20.00	65.00
tbTripsAndVMT	Hauling TripNumber		0.00	43.00
tbTripsAndVMT	Hauling TripNumber		0.00	30.00
tbTripsAndVMT	Hauling TripNumber		0.00	125.00
tbTripsAndVMT	Worker TripNumber		15.00	8.00
tbTripsAndVMT	Worker TripNumber		18.00	10.00
tbTripsAndVMT	Worker TripNumber		18.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	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
lb/day																
2019	1.6827	18.6952	11.1387	0.0326	18.3016	0.7458	19.0474	9.9941	0.6865	10.6806	0.0000	3,286.913	3,286.9130	0.8473	0.0000	3,308.094
2022	4.2903	36.8534	32.8640	0.1034	8.1157	1.4211	9.5368	3.7882	1.3077	5.0959	0.0000	10,158.18	10,158.185	2.5971	0.0000	10,223.11
2023	4.3188	35.1429	35.0904	0.0972	7.0255	1.4923	8.5178	3.4935	1.3876	4.8811	0.0000	9,400.882	9,400.8829	2.6237	0.0000	9,466.475
Maximum	4.3188	36.8534	35.0904	0.1034	18.3016	1.4923	19.0474	9.9941	1.3876	10.6806	0.0000	10,158.18	10,158.185	2.6237	0.0000	10,223.11
												53	3			23

Mitigated Construction

Year	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
lb/day																
2019	1.6827	18.6952	11.1387	0.0326	8.3639	0.7458	9.1097	4.5320	0.6865	5.2185	0.0000	3,286.913	3,286.9130	0.8473	0.0000	3,308.094
2022	4.2903	36.8534	32.8640	0.1034	4.5118	1.4211	5.9329	1.9360	1.3077	3.2438	0.0000	10,158.18	10,158.185	2.5971	0.0000	10,223.11
2023	4.3188	35.1429	35.0904	0.0972	3.4210	1.4923	4.9133	1.6413	1.3876	3.0289	0.0000	9,400.882	9,400.8829	2.6237	0.0000	9,466.475
Maximum	4.3188	36.8534	35.0904	0.1034	8.3639	1.4923	9.1097	4.5320	1.3876	5.2185	0.0000	10,158.18	10,158.185	2.6237	0.0000	10,223.11
												53	3			23

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
0.00	0.00	0.00	0.00	51.27	0.00	46.21	53.06	0.00	44.37	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	Hot Spot Removal	Site Preparation	8/1/2019	8/24/2019	5	17	
2	Classroom Soil Remediation	Grading	3/27/2022	8/30/2022	5	112	
3	Athletic Field Soil Remediation	Grading	5/1/2023	8/30/2023	5	88	
4	Classroom Upgrades	Building Construction	3/27/2022	8/30/2022	5	112	
5	Athletic Field Improvements	Trenching	5/1/2023	8/30/2023	5	88	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.49

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
Classroom Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Athletic Field Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Hot Spot Removal	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Off-Highway Trucks	3	8.00	402	0.38
Classroom Upgrades	Cranes	1	8.00	231	0.29
Classroom Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Classroom Upgrades	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Athletic Field Improvements	Skid Steer Loaders	1	8.00	65	0.37
Athletic Field Improvements	Off-Highway Trucks	3	8.00	402	0.38
Athletic Field Improvements	Cranes	1	8.00	231	0.29
Athletic Field Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Athletic Field Improvements	Forklifts	1	8.00	89	0.20
Athletic Field Improvements	Generator Sets	1	8.00	84	0.74

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	CO2e
Athletic Field Improvements	Welders	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.45
Classroom Soil Remediation	Off-Highway Trucks	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.38
Athletic Field Soil Remediation	Off-Highway Trucks	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.38
Hot Spot Removal	Rubber Tired Loaders	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.36
Hot Spot Removal	Off-Highway Trucks	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.38
Classroom Upgrades	Skid Steer Loaders	1	8.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	0.37

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
Hot Spot Removal	6	8.00	0.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Soil Remediation	7	10.00	0.00	30.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Upgrades	12	105.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Soil Remediation	7	10.00	0.00	125.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Improvements	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Hot Spot Removal - 2019

Unmitigated 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
Fugitive Dust					18.0686	0.0000	18.0686	9.9310	0.0000	9.9310			0.0000			0.0000
Off-Road	1.5763	16.7148	10.2893	0.0257		0.7362	0.7362		0.6773	0.6773		2.544.7148	2.544.7148	0.8051		2,564.8429
Total	1.5763	16.7148	10.2893	0.0257	18.0686	0.7362	18.8047	9.9310	0.6773	10.6083		2,544.7148	2,544.7148	0.8051		2,564.8429

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
	lb/day															
Hauling	0.0665	1.9510	0.4637	5.9600e-003	0.1436	8.8800e-003	0.1525	0.0394	8.4900e-003	0.0479	645.1619	645.1619	0.0388			646.1323
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244	97.0362	97.0362	3.3300e-003			97.1196
Total	0.1065	1.9804	0.8494	6.9300e-003	0.2330	9.6500e-003	0.2427	0.0631	9.2000e-003	0.0723	742.1982	742.1982	0.0421			743.2518

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
	lb/day															
Fugitive Dust					8.1309	0.0000	8.1309	4.4690	0.0000	4.4690			0.0000			0.0000
Off-Road	1.5763	16.7148	10.2893	0.0257		0.7362	0.7362		0.6773	0.6773	0.0000	2,544.7148	2,544.7148	0.8051		2,564.8429
Total	1.5763	16.7148	10.2893	0.0257	8.1309	0.7362	8.8670	4.4690	0.6773	5.1462	0.0000	2,544.7148	2,544.7148	0.8051		2,564.8429

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
	lb/day															
Hauling	0.0665	1.9510	0.4637	5.9600e-003	0.1436	8.8800e-003	0.1525	0.0394	8.4900e-003	0.0479	645.1619	645.1619	0.0388			646.1323
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
Worker	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244	97.0362	97.0362	3.3300e-003			97.1196
Total	0.1065	1.9804	0.8494	6.9300e-003	0.2330	9.6500e-003	0.2427	0.0631	9.2000e-003	0.0723	742.1982	742.1982	0.0421			743.2518

3.3 Classroom Soil Remediation - 2022

Unmitigated 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
	lb/day															
Fugitive Dust					6.5526	0.0000	6.5526	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.1492	10.3900	9.3658	0.0257	0.4277	0.4277	0.4277	0.3934	0.3934	0.3934	2,487.127	2,487.127	2,487.1275	0.8044		2,507.237
Total	1.1492	10.3900	9.3658	0.0257	6.5526	0.4277	6.9802	3.3675	0.3934	3.7610	2,487.127	2,487.1275	0.8044			2,507.237

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
	lb/day															
Hauling	6.0100e-003	0.1625	0.0475	6.1000e-004	0.0152	6.1000e-004	0.0158	4.1700e-003	5.8000e-004	4.7500e-003	65.9806	65.9806	65.9806	4.0400e-003		66.0817
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
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	109.8712	109.8712	109.8712	3.0300e-003		109.9470
Total	0.0462	0.1891	0.4191	1.7100e-003	0.1270	1.4800e-003	0.1285	0.0338	1.3900e-003	0.0352	175.8519	175.8519	175.8519	7.0700e-003		176.0287

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
lb/day																
Fugitive Dust					2.9487	0.0000	2.9487	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.1492	10.3900	9.3658	0.0257		0.4277	0.4277		0.3934	0.3934	0.0000	2,487.1275	0.8044			2,507.2372
Total	1.1492	10.3900	9.3658	0.0257	2.9487	0.4277	3.3763	1.5154	0.3934	1.9088	0.0000	2,487.1275	0.8044			2,507.2372

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
lb/day																
Hauling	6.0100e-003	0.1625	0.0475	6.1000e-004	0.0152	6.1000e-004	0.0158	4.1700e-003	5.8000e-004	4.7500e-003		65.9806	4.0400e-003			66.0817
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
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		109.8712	3.0300e-003			109.9470
Total	0.0462	0.1891	0.4191	1.7100e-003	0.1270	1.4800e-003	0.1285	0.0338	1.3900e-003	0.0352		175.8519	7.0700e-003			176.0287

3.4 Athletic Field Soil Remediation - 2023

Unmitigated 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
lb/day																
Fugitive Dust					6.5536	0.0000	6.5536	3.3677	0.0000	3.3677			0.0000			0.0000
Off-Road	1.0771	9.2939	9.2609	0.0257		0.3695	0.3695		0.3400	0.3400		2,488.6026	0.8049			2,508.7242
Total	1.0771	9.2939	9.2609	0.0257	6.5536	0.3695	6.9232	3.3677	0.3400	3.7077		2,488.6026	0.8049			2,508.7242

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
lb/day																
Hauling	0.0207	0.5162	0.2310	3.0800e-003	0.0807	1.3100e-003	0.0820	0.0221	1.2500e-003	0.0234		335.5211	335.5211	0.0206		336.0356
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
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		105.8482	105.8482	2.7300e-003		105.9166
Total	0.0584	0.5403	0.5732	4.1400e-003	0.1924	2.1600e-003	0.1946	0.0518	2.0300e-003	0.0538		441.3693	441.3693	0.0233		441.9522

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
lb/day																
Fugitive Dust					2.9491	0.0000	2.9491	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	1.0771	9.2939	9.2609	0.0257		0.3695	0.3695		0.3400	0.3400		2,488.6026	2,488.6026	0.8049		2,508.7242
Total	1.0771	9.2939	9.2609	0.0257	2.9491	0.3695	3.3187	1.5155	0.3400	1.8554	0.0000	2,488.6026	2,488.6026	0.8049	6	2,508.7242

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
lb/day																
Hauling	0.0207	0.5162	0.2310	3.0800e-003	0.0807	1.3100e-003	0.0820	0.0221	1.2500e-003	0.0234		335.5211	335.5211	0.0206		336.0356
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
Worker	0.0377	0.0241	0.3422	1.0600e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		105.8482	105.8482	2.7300e-003		105.9166
Total	0.0584	0.5403	0.5732	4.1400e-003	0.1924	2.1600e-003	0.1946	0.0518	2.0300e-003	0.0538		441.3693	441.3693	0.0233		441.9522

3.5 Classroom Upgrades - 2022 Unmitigated 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
Off-Road	2.5664	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075
Total	2.5664	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075

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
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
Vendor	0.1170	3.7855	0.9846	0.0104	0.2625	7.1200e-003	0.2696	0.0756	6.8100e-003	0.0824		1,117.1921	1,117.1921	0.0641		1,118.7949
Worker	0.4216	0.2795	3.9018	0.0116	1.1737	9.1900e-003	1.1828	0.3113	8.4600e-003	0.3197		1,153.6479	1,153.6479	0.0318		1,154.4440
Total	0.5386	4.0650	4.8864	0.0220	1.4361	0.0163	1.4525	0.3868	0.0153	0.4021		2,270.8401	2,270.8401	0.0960		2,273.2389

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
Off-Road	2.5664	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075
Total	2.5664	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075

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
lb/day																
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
Vendor	0.1170	3.7855	0.9846	0.0104	0.2625	7.1200e-003	0.2696	0.0756	6.8100e-003	0.0824	1,117.192	1,117.1921	0.0641			1,118.7949
Worker	0.4216	0.2795	3.9018	0.0116	1.1737	9.1900e-003	1.1828	0.3113	8.4600e-003	0.3197	1,153.647	1,153.6479	0.0318			1,154.4440
Total	0.5386	4.0650	4.8864	0.0220	1.4361	0.0163	1.4525	0.3868	0.0153	0.4021	2,270.840	2,270.8401	0.0960			2,273.2389

3.6 Athletic Field Improvements - 2023

Unmitigated 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
lb/day																
Off-Road	3.0890	25.2485	24.4008	0.0647		1.1184	1.1184		1.0436	1.0436	6,206.290	6,206.2905	1.7887			6,251.0074
Total	3.0890	25.2485	24.4008	0.0647		1.1184	1.1184		1.0436	1.0436	6,206.290	6,206.2905	1.7887			6,251.0074

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
lb/day																
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
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
Worker	0.0943	0.0602	0.8555	2.6600e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	264.6205	264.6205	6.8400e-003			264.7914
Total	0.0943	0.0602	0.8555	2.6600e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	264.6205	264.6205	6.8400e-003			264.7914

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	lb/day															
Off-Road	3.0890	25.2485	24.4008	0.0647		1.1184	1.1184		1.0436	1.0436	0.0000	6,206.2905	6,206.2905	1.7887		6,251.0074
Total	3.0890	25.2485	24.4008	0.0647		1.1184	1.1184		1.0436	1.0436	0.0000	6,206.2905	6,206.2905	1.7887		6,251.0074

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	lb/day															
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
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
Worker	0.0943	0.0602	0.8555	2.6600e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761		264.6205	264.6205	6.8400e-003		264.7914
Total	0.0943	0.0602	0.8555	2.6600e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761		264.6205	264.6205	6.8400e-003		264.7914

Avalon K-12 School HVAC, ADA, Soil Removal and New Field - Los Angeles-South Coast County, Winter

Avalon K-12 School HVAC, ADA, Soil Removal and New Field
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	49.00	1000sqft	1.12	49,000.00	0
Other Non-Asphalt Surfaces	2.49	Acre	2.49	108,404.40	0
City Park	2.14	Acre	2.14	93,218.40	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2024

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Approx half of 11.5 school site will be disturbed and 49,000 sq ft of building space. Baseball Field Impr (2.14 acre City Park), ADA and soil Removal (Other Non-Asphalt Surfaces)

Construction Phase - Schedule provided by applicant

Off-road Equipment - 1 Trencher, 1 Backhoe (T/L/B), 1 Mini Exc (Skid Steer), 1 Water, 1 Flatbed, 1 Cement Truck (3 Off-Hwy Trucks), 1 Crane, 1 Forklift, 1 Generator, 1 Crane, 1 welder

Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)

Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)

Off-road Equipment - 1 Trencher, 1 Backhoes (Tractor/Loader/Backhoe), 1 Mini Excavator (Skid Steer Loader), 1 Water Truck and 1 Flatbed Truck (Off-Hwy Trucks), 1 Crane
 Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)
 Grading - Hot Spot Removal 345 cu yd exported, Classroom Soil Remediation 240 cu yd exported, Athletic Field Remediation 1,000 cu yd exported
 Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements
 Trips and VMT - Haul Length of 65 miles from Long Beach Harbor to Simi Valley Landfill

Table Name	Column Name	Default Value	New Value
tb ConstructionPhase	NumDays	10.00	17.00
tb ConstructionPhase	NumDays	20.00	112.00
tb ConstructionPhase	NumDays	230.00	112.00
tb ConstructionPhase	NumDays	20.00	88.00
tb ConstructionPhase	PhaseEndDate	8/14/2019	8/24/2019
tb ConstructionPhase	PhaseEndDate	9/11/2019	8/30/2022
tb ConstructionPhase	PhaseEndDate	8/26/2020	8/30/2022
tb ConstructionPhase	PhaseEndDate	10/9/2019	8/30/2023
tb ConstructionPhase	PhaseStartDate	8/15/2019	3/27/2022
tb ConstructionPhase	PhaseStartDate	10/10/2019	3/27/2022
tb ConstructionPhase	PhaseStartDate	9/12/2019	5/1/2023
tb Grading	MaterialExported	0.00	240.00
tb Grading	MaterialExported	0.00	1,000.00
tb Grading	MaterialExported	0.00	345.00
tb OffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tb OffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tb OffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tb OffRoadEquipment	OffRoadEquipmentType		Cranes
tb OffRoadEquipment	OffRoadEquipmentType	Cranes	Trenchers
tb OffRoadEquipment	OffRoadEquipmentType		Trenchers
tb OffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tb OffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tb OffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tbIOffRoadEquipment	OffRoadEquipmentType			Cranes
tbIOffRoadEquipment	OffRoadEquipmentType			Forklifts
tbIOffRoadEquipment	OffRoadEquipmentType			Generator Sets
tbIOffRoadEquipment	OffRoadEquipmentType			Welders
tbIOffRoadEquipment	OffRoadEquipmentType		Excavators	Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType		Excavators	Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers	Rubber Tired Loaders
tbIOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers	Off-Highway Trucks
tbIOffRoadEquipment	OffRoadEquipmentType		Welders	Skid Steer Loaders
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		4.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	3.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	3.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tbIOffRoadEquipment	PhaseName			Classroom Upgrades

tbIOffRoadEquipment	PhaseName		Classroom Soil Remediation
tbIOffRoadEquipment	PhaseName		Athletic Field Soil Remediation
tbIOffRoadEquipment	PhaseName		Classroom Upgrades
tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
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tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
tbIOffRoadEquipment	PhaseName		Athletic Field Improvements
tbIOffRoadEquipment	PhaseName		Classroom Soil Remediation
tbIOffRoadEquipment	PhaseName		Athletic Field Soil Remediation
tbIOffRoadEquipment	PhaseName		Hot Spot Removal
tbIOffRoadEquipment	PhaseName		Classroom Upgrades
tbIOffRoadEquipment	UsageHours	7.00	8.00
tbIOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripNumber	0.00	43.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	HaulingTripNumber	0.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	8.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	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
lb/day																
2019	1.6876	18.7546	11.1160	0.0326	18.3016	0.7459	19.0474	9.9941	0.6865	10.6806	0.0000	3,277.5386	3,277.5386	0.8476	0.0000	3,298.7295
2022	4.3495	36.8803	32.5969	0.1024	8.1157	1.4214	9.5371	3.7882	1.3080	5.0961	0.0000	10,053.215	10,053.215	2.5992	0.0000	10,118.1949
2023	4.3346	35.1648	34.9862	0.0969	7.0255	1.4923	8.5178	3.4935	1.3876	4.8812	0.0000	9,377.2882	9,377.2882	2.6233	0.0000	9,442.8710
Maximum	4.3495	36.8803	34.9862	0.1024	18.3016	1.4923	19.0474	9.9941	1.3876	10.6806	0.0000	10,053.215	10,053.215	2.6233	0.0000	10,118.1949

Mitigated Construction

Year	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
lb/day																
2019	1.6876	18.7546	11.1160	0.0326	8.3639	0.7459	9.1097	4.5320	0.6865	5.2186	0.0000	3,277.5386	3,277.5386	0.8476	0.0000	3,298.7295
2022	4.3495	36.8803	32.5969	0.1024	4.5118	1.4214	5.9332	1.9360	1.3080	3.2440	0.0000	10,053.215	10,053.215	2.5992	0.0000	10,118.1949
2023	4.3346	35.1648	34.9862	0.0969	3.4210	1.4923	4.9133	1.6413	1.3876	3.0289	0.0000	9,377.2882	9,377.2882	2.6233	0.0000	9,442.8710
Maximum	4.3495	36.8803	34.9862	0.1024	8.3639	1.4923	9.1097	4.5320	1.3876	5.2186	0.0000	10,053.215	10,053.215	2.6233	0.0000	10,118.1949

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
0.00	0.00	0.00	0.00	51.27	0.00	46.21	53.06	0.00	44.37	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	Hot Spot Removal	Site Preparation	8/1/2019	8/24/2019	5	17	
2	Classroom Soil Remediation	Grading	3/27/2022	8/30/2022	5	112	
3	Athletic Field Soil Remediation	Grading	5/1/2023	8/30/2023	5	88	
4	Classroom Upgrades	Building Construction	3/27/2022	8/30/2022	5	112	
5	Athletic Field Improvements	Trenching	5/1/2023	8/30/2023	5	88	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.49

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
Classroom Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Athletic Field Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Hot Spot Removal	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Off-Highway Trucks	3	8.00	402	0.38
Classroom Upgrades	Cranes	1	8.00	231	0.29
Classroom Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Classroom Upgrades	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Athletic Field Improvements	Skid Steer Loaders	1	8.00	65	0.37
Athletic Field Improvements	Off-Highway Trucks	3	8.00	402	0.38
Athletic Field Improvements	Cranes	1	8.00	231	0.29
Athletic Field Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Athletic Field Improvements	Forklifts		1	8.00	89	0.20
Athletic Field Improvements	Generator Sets		1	8.00	84	0.74
Athletic Field Improvements	Welders		1	8.00	46	0.45
Classroom Soil Remediation	Off-Highway Trucks		1	8.00	402	0.38
Athletic Field Soil Remediation	Off-Highway Trucks		1	8.00	402	0.38
Hot Spot Removal	Rubber Tired Loaders		1	8.00	203	0.36
Hot Spot Removal	Off-Highway Trucks		1	8.00	402	0.38
Classroom Upgrades	Skid Steer Loaders		1	8.00	65	0.37

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
Hot Spot Removal	6	8.00	0.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Soil Remediation	7	10.00	0.00	30.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Upgrades	12	105.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Soil Remediation	7	10.00	0.00	125.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Improvements	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Hot Spot Removal - 2019

Unmitigated 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
	lb/day															
Fugitive Dust					18.0686	0.0000	18.0686	9.9310	0.0000	9.9310			0.0000			0.0000
Off-Road	1.5763	16.7148	10.2893	0.0257	0.7362	0.7362	0.7362	0.6773	0.6773	0.6773		2,544.7148	2,544.7148	0.8051		2,564.8429
Total	1.5763	16.7148	10.2893	0.0257	18.0686	0.7362	18.8047	9.9310	0.6773	10.6083		2,544.7148	2,544.7148	0.8051		2,564.8429

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	lb/day															
Hauling	0.0671	2.0073	0.4728	5.9300e-003	0.1436	8.9300e-003	0.1525	0.0394	8.5400e-003	0.0479		641.4533	641.4533	0.0394		642.4376
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
Total	0.1114	2.0398	0.8267	6.8500e-003	0.2330	9.7000e-003	0.2427	0.0631	9.2500e-003	0.0723		732.8238	732.8238	0.0425		733.8867

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	lb/day															
Fugitive Dust					8.1309	0.0000	8.1309	4.4690	0.0000	4.4690			0.0000			0.0000
Off-Road	1.5763	16.7148	10.2893	0.0257	0.7362	0.7362	0.7362	0.6773	0.6773	0.6773	0.0000	2,544.7148	2,544.7148	0.8051		2,564.8429
Total	1.5763	16.7148	10.2893	0.0257	8.1309	0.7362	8.8670	4.4690	0.6773	5.1462	0.0000	2,544.7148	2,544.7148	0.8051		2,564.8429

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
lb/day																
Hauling	0.0671	2.0073	0.4728	5.9300e-003	0.1436	8.9300e-003	0.1525	0.0394	8.5400e-003	0.0479		641.4533	641.4533	0.0394		642.4376
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
Worker	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
Total	0.1114	2.0398	0.8267	6.8500e-003	0.2330	9.7000e-003	0.2427	0.0631	9.2500e-003	0.0723		732.8238	732.8238	0.0425		733.8867

3.3 Classroom Soil Remediation - 2022

Unmitigated 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
lb/day																
Fugitive Dust					6.5526	0.0000	6.5526	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.1492	10.3900	9.3658	0.0257	0.4277	0.4277	0.4277	0.3934	0.3934	0.3934		2,487.1275	2,487.1275	0.8044		2,507.2372
Total	1.1492	10.3900	9.3658	0.0257	6.5526	0.4277	6.9802	3.3675	0.3934	3.7610		2,487.1275	2,487.1275	0.8044		2,507.2372

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
lb/day																
Hauling	6.0600e-003	0.1671	0.0483	6.0000e-004	0.0152	6.1000e-004	0.0158	4.1700e-003	5.8000e-004	4.7500e-003		65.5891	65.5891	4.0900e-003		65.6914
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
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.4570	103.4570	2.8500e-003		103.5282
Total	0.0508	0.1965	0.3874	1.6400e-003	0.1270	1.4800e-003	0.1285	0.0338	1.3900e-003	0.0352		169.0460	169.0460	6.9400e-003		169.2195

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
lb/day																
Fugitive Dust					2.9487	0.0000	2.9487	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.1492	10.3900	9.3658	0.0257	0.4277	0.4277	0.4277	0.3934	0.3934	0.3934	0.0000	2,487.1275	2,487.1275	0.8044		2,507.2372
Total	1.1492	10.3900	9.3658	0.0257	2.9487	0.4277	3.3763	1.5154	0.3934	1.9088	0.0000	2,487.1275	2,487.1275	0.8044		2,507.2372

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
lb/day																
Hauling	6.0600e-003	0.1671	0.0483	6.0000e-004	0.0152	6.1000e-004	0.0158	4.1700e-003	5.8000e-004	4.7500e-003		65.5891	65.5891	4.0900e-003		65.6914
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
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.4570	103.4570	2.8500e-003		103.5282
Total	0.0508	0.1965	0.3874	1.6400e-003	0.1270	1.4800e-003	0.1285	0.0338	1.3900e-003	0.0352		169.0460	169.0460	6.9400e-003		169.2195

3.4 Athletic Field Soil Remediation - 2023

Unmitigated 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
lb/day																
Fugitive Dust					6.5536	0.0000	6.5536	3.3677	0.0000	3.3677			0.0000			0.0000
Off-Road	1.0771	9.2939	9.2609	0.0257	0.3695	0.3695	0.3695	0.3400	0.3400	0.3400		2,488.6026	2,488.6026	0.8049		2,508.7242
Total	1.0771	9.2939	9.2609	0.0257	6.5536	0.3695	6.9232	3.3677	0.3400	3.7077		2,488.6026	2,488.6026	0.8049		2,508.7242

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
lb/day																
Hauling	0.0209	0.5291	0.2333	3.0600e-003	0.0807	1.3200e-003	0.0820	0.0221	1.2600e-003	0.0234		333.5429	333.5429	0.0208		334.0626
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
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		99.6721	99.6721	2.5700e-003		99.7362
Total	0.0630	0.5557	0.5451	4.0600e-003	0.1924	2.1700e-003	0.1946	0.0518	2.0400e-003	0.0538		433.2150	433.2150	0.0234		433.7988

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
lb/day																
Fugitive Dust					2.9491	0.0000	2.9491	1.5155	0.0000	1.5155			0.0000			0.0000
Off-Road	1.0771	9.2939	9.2609	0.0257	0.3695	0.3695	0.3695	0.3400	0.3400	0.3400	0.0000	2,488.6026	2,488.6026	0.8049		2,508.7242
Total	1.0771	9.2939	9.2609	0.0257	2.9491	0.3695	3.3187	1.5155	0.3400	1.8554	0.0000	2,488.6026	2,488.6026	0.8049		2,508.7242

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
lb/day																
Hauling	0.0209	0.5291	0.2333	3.0600e-003	0.0807	1.3200e-003	0.0820	0.0221	1.2600e-003	0.0234		333.5429	333.5429	0.0208		334.0626
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
Worker	0.0422	0.0266	0.3118	1.0000e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		99.6721	99.6721	2.5700e-003		99.7362
Total	0.0630	0.5557	0.5451	4.0600e-003	0.1924	2.1700e-003	0.1946	0.0518	2.0400e-003	0.0538		433.2150	433.2150	0.0234		433.7988

3.5 Classroom Upgrades - 2022

Unmitigated 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
lb/day																
Off-Road	2.5564	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075
Total	2.5564	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976		5,224.3659	5,224.3659	1.6897		5,266.6075

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
lb/day																
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	0.1228	3.7753	1.0897	0.0102	0.2625	7.3500e-003	0.2698	0.0756	7.0300e-003	0.0826	1,086.3782	1,086.3782	1,086.3782	0.0683		1,088.0850
Worker	0.4702	0.3093	3.5614	0.0109	1.1737	9.1900e-003	1.1828	0.3113	8.4600e-003	0.3197	1,086.2979	1,086.2979	1,086.2979	0.0299		1,087.0457
Total	0.5931	4.0845	4.6510	0.0211	1.4361	0.0165	1.4527	0.3868	0.0155	0.4023	2,172.6761	2,172.6761	2,172.6761	0.0982		2,175.1307

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
lb/day																
Off-Road	2.5564	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976	0.0000	5,224.3659	5,224.3659	1.6897		5,266.6075
Total	2.5564	22.2093	18.1926	0.0540		0.9757	0.9757		0.8976	0.8976	0.0000	5,224.3659	5,224.3659	1.6897		5,266.6075

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	lb/day															
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
Vendor	0.1228	3.7753	1.0897	0.0102	0.2625	7.3500e-003	0.2698	0.0756	7.0300e-003	0.0826	1,086.3782	2	1,086.3782	0.0683		1,088.0850
Worker	0.4702	0.3093	3.5614	0.0109	1.1737	9.1900e-003	1.1828	0.3113	8.4600e-003	0.3197	1,086.2979	9	1,086.2979	0.0299		1,087.0457
Total	0.5931	4.0845	4.6510	0.0211	1.4361	0.0165	1.4527	0.3868	0.0155	0.4023	2,172.6761	1	2,172.6761	0.0982		2,175.1307

3.6 Athletic Field Improvements - 2023

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	lb/day															
Off-Road	3.0890	25.2485	24.4008	0.0647	1.1184	1.1184	1.1184	1.0436	1.0436	1.0436	6,206.2905	5	6,206.2905	1.7887		6,251.0074
Total	3.0890	25.2485	24.4008	0.0647	1.1184	1.1184	1.1184	1.0436	1.0436	1.0436	6,206.2905	5	6,206.2905	1.7887		6,251.0074

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	lb/day															
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
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
Worker	0.1055	0.0666	0.7794	2.5000e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	249.1801	249.1801	249.1801	6.4100e-003		249.3405
Total	0.1055	0.0666	0.7794	2.5000e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	249.1801	249.1801	249.1801	6.4100e-003		249.3405

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	lb/day															
Off-Road	3.0890	25.2485	24.4008	0.0647	1.1184	1.1184	1.1184	1.0436	1.0436	1.0436	0.0000	6,206.2905	6,206.2905	1.7887		6,251.0074
Total	3.0890	25.2485	24.4008	0.0647	1.1184	1.1184	1.1184	1.0436	1.0436	1.0436	0.0000	6,206.2905	6,206.2905	1.7887		6,251.0074

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	lb/day															
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
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
Worker	0.1055	0.0666	0.7794	2.5000e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	249.1801	249.1801	249.1801	6.4100e-003		249.3405
Total	0.1055	0.0666	0.7794	2.5000e-003	0.2794	2.1300e-003	0.2816	0.0741	1.9600e-003	0.0761	249.1801	249.1801	249.1801	6.4100e-003		249.3405

Avalon K-12 School HVAC, ADA, Soil Removal and New Field - Los Angeles-South Coast County, Annual

Avalon K-12 School HVAC, ADA, Soil Removal and New Field
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	49.00	1000sqft	1.12	49,000.00	0
Other Non-Asphalt Surfaces	2.49	Acre	2.49	108,404.40	0
City Park	2.14	Acre	2.14	93,218.40	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2024

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Approx half of 11.5 school site will be disturbed and 49,000 sq ft of building space. Baseball Field Impr (2.14 acre City Park), ADA and soil Removal (Other Non-Asphalt Surfaces)

Construction Phase - Schedule provided by applicant

Off-road Equipment - 1 Trencher, 1 Backhoe (T/L/B), 1 Mini Exc (Skid Steer), 1 Water, 1 Flatbed, 1 Cement Truck (3 Off-Hwy Trucks), 1 Crane, 1 Forklift, 1 Generator, 1 Crane, 1 welder

Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)

Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)

Off-road Equipment - 1 Trencher, 1 Backhoes (Tractor/Loader/Backhoe), 1 Mini Excavator (Skid Steer Loader), 1 Water Truck and 1 Flatbed Truck (Off-Hwy Trucks), 1 Crane
 Off-road Equipment - 1 Haul truck (Off-Hwy Truck), 2 Backhoes (Tractor/Loader/Backhoe), 1 Loader (Rubber Tired Loader)
 Grading - Hot Spot Removal 345 cu yd exported, Classroom Soil Remediation 240 cu yd exported, Athletic Field Remediation 1,000 cu yd exported
 Construction Off-road Equipment Mitigation - Water Exposed Area 2x per day selected to account for SCAQMD Rule 403 minimum requirements
 Trips and VMT - Haul Length of 65 miles from Long Beach Harbor to Simi Valley Landfill

Table Name	Column Name	Default Value	New Value
tbiConstructionPhase	NumDays	10.00	17.00
tbiConstructionPhase	NumDays	20.00	112.00
tbiConstructionPhase	NumDays	230.00	112.00
tbiConstructionPhase	NumDays	20.00	88.00
tbiConstructionPhase	PhaseEndDate	8/14/2019	8/24/2019
tbiConstructionPhase	PhaseEndDate	9/11/2019	8/30/2022
tbiConstructionPhase	PhaseEndDate	8/26/2020	8/30/2022
tbiConstructionPhase	PhaseEndDate	10/9/2019	8/30/2023
tbiConstructionPhase	PhaseStartDate	8/15/2019	3/27/2022
tbiConstructionPhase	PhaseStartDate	10/10/2019	3/27/2022
tbiConstructionPhase	PhaseStartDate	9/12/2019	5/1/2023
tbiGrading	MaterialExported	0.00	240.00
tbiGrading	MaterialExported	0.00	1,000.00
tbiGrading	MaterialExported	0.00	345.00
tbiOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tbiOffRoadEquipment	OffRoadEquipmentType		Cranes
tbiOffRoadEquipment	OffRoadEquipmentType	Cranes	Trenchers
tbiOffRoadEquipment	OffRoadEquipmentType		Trenchers
tbiOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tbiOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tbiOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks

tblOffRoadEquipment	OffRoadEquipmentType			Cranes
tblOffRoadEquipment	OffRoadEquipmentType			Forklifts
tblOffRoadEquipment	OffRoadEquipmentType			Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType			Welders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Welders	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00	1.00
tblOffRoadEquipment	PhaseName			Classroom Upgrades

tblOffRoadEquipment	PhaseName		Classroom Soil Remediation
tblOffRoadEquipment	PhaseName		Athletic Field Soil Remediation
tblOffRoadEquipment	PhaseName		Classroom Upgrades
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Athletic Field Improvements
tblOffRoadEquipment	PhaseName		Classroom Soil Remediation
tblOffRoadEquipment	PhaseName		Athletic Field Soil Remediation
tblOffRoadEquipment	PhaseName		Hot Spot Removal
tblOffRoadEquipment	PhaseName		Classroom Upgrades
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	Hauling TripLength	20.00	65.00
tblTripsAndVMT	Hauling TripLength	20.00	65.00
tblTripsAndVMT	Hauling TripLength	20.00	65.00
tblTripsAndVMT	Hauling TripNumber	0.00	43.00
tblTripsAndVMT	Hauling TripNumber	0.00	30.00
tblTripsAndVMT	Hauling TripNumber	0.00	125.00
tblTripsAndVMT	Worker TripNumber	15.00	8.00
tblTripsAndVMT	Worker TripNumber	18.00	10.00
tblTripsAndVMT	Worker TripNumber	18.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2019	10-31-2019	0.1747	0.1747
11	2-1-2022	4-30-2022	0.5145	0.5145
12	5-1-2022	7-31-2022	1.3519	1.3519
13	8-1-2022	10-31-2022	0.4408	0.4408
16	5-1-2023	7-31-2023	1.2966	1.2966
17	8-1-2023	9-30-2023	0.4228	0.4228
		Highest	1.3519	1.3519

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Hot Spot Removal	Site Preparation	8/1/2019	8/24/2019	5	17	
2	Classroom Soil Remediation	Grading	3/27/2022	8/30/2022	5	112	
3	Athletic Field Soil Remediation	Grading	5/1/2023	8/30/2023	5	88	
4	Classroom Upgrades	Building Construction	3/27/2022	8/30/2022	5	112	
5	Athletic Field Improvements	Trenching	5/1/2023	8/30/2023	5	88	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.49

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
Classroom Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Athletic Field Soil Remediation	Rubber Tired Loaders	1	8.00	203	0.36
Hot Spot Removal	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Off-Highway Trucks	3	8.00	402	0.38

Classroom Upgrades	Cranes	1	8.00	231	0.29
Classroom Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Classroom Upgrades	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Trenchers	1	8.00	78	0.50
Athletic Field Improvements	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Classroom Upgrades	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Athletic Field Improvements	Skid Steer Loaders	1	8.00	65	0.37
Athletic Field Improvements	Off-Highway Trucks	3	8.00	402	0.38
Athletic Field Improvements	Cranes	1	8.00	231	0.29
Athletic Field Soil Remediation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Athletic Field Improvements	Forklifts	1	8.00	89	0.20
Athletic Field Improvements	Generator Sets	1	8.00	84	0.74
Athletic Field Improvements	Welders	1	8.00	46	0.45
Classroom Soil Remediation	Off-Highway Trucks	1	8.00	402	0.38
Athletic Field Soil Remediation	Off-Highway Trucks	1	8.00	402	0.38
Hot Spot Removal	Rubber Tired Loaders	1	8.00	203	0.36
Hot Spot Removal	Off-Highway Trucks	1	8.00	402	0.38
Classroom Upgrades	Skid Steer Loaders	1	8.00	65	0.37

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
Hot Spot Removal	6	8.00	0.00	43.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Soil Remediation	7	10.00	0.00	30.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Classroom Upgrades	12	105.00	41.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Soil Remediation	7	10.00	0.00	125.00	14.70	6.90	65.00	LD_Mix	HDT_Mix	HHDT
Athletic Field Improvements	10	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Hot Spot Removal - 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																
Fugitive Dust					0.1536	0.0000	0.1536	0.0844	0.0000	0.0844	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0134	0.1421	0.0875	2.2000e-004	6.2600e-003	6.2600e-003	6.2600e-003	5.7600e-003	5.7600e-003	5.7600e-003	0.0000	19.6225	19.6225	6.2100e-003	0.0000	19.7777
Total	0.0134	0.1421	0.0875	2.2000e-004	0.1536	6.2600e-003	0.1598	0.0844	5.7600e-003	0.0902	0.0000	19.6225	19.6225	6.2100e-003	0.0000	19.7777

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	5.7000e-004	0.0174	3.9700e-003	5.0000e-005	1.2000e-003	8.0000e-005	1.2800e-003	3.3000e-004	7.0000e-005	4.0000e-004	0.0000	4.9629	4.9629	3.0000e-004	0.0000	4.9704
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	3.4000e-004	2.8000e-004	3.0900e-003	1.0000e-005	7.5000e-004	1.0000e-005	7.5000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.7163	0.7163	2.0000e-005	0.0000	0.7169
Total	9.1000e-004	0.0177	7.0600e-003	6.0000e-005	1.9500e-003	9.0000e-005	2.0300e-003	5.3000e-004	8.0000e-005	6.0000e-004	0.0000	5.6792	5.6792	3.2000e-004	0.0000	5.6873

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					0.0691	0.0000	0.0691	0.0380	0.0000	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0134	0.1421	0.0875	2.2000e-004	6.2600e-003	6.2600e-003	6.2600e-003	5.7600e-003	5.7600e-003	5.7600e-003	0.0000	19.6225	19.6225	6.2100e-003	0.0000	19.7777
Total	0.0134	0.1421	0.0875	2.2000e-004	0.0691	6.2600e-003	0.0754	0.0380	5.7600e-003	0.0438	0.0000	19.6225	19.6225	6.2100e-003	0.0000	19.7777

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	5.7000e-004	0.0174	3.9700e-003	5.0000e-005	1.2000e-003	8.0000e-005	1.2800e-003	3.3000e-004	7.0000e-005	4.0000e-004	0.0000	4.9629	4.9629	3.0000e-004	0.0000	0.0000	4.9704
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	0.0000
Worker	3.4000e-004	2.8000e-004	3.0900e-003	1.0000e-005	7.5000e-004	1.0000e-005	7.5000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.7163	0.7163	2.0000e-005	0.0000	0.0000	0.7169
Total	9.1000e-004	0.0177	7.0600e-003	6.0000e-005	1.9500e-003	9.0000e-005	2.0300e-003	5.3000e-004	8.0000e-005	6.0000e-004	0.0000	5.6792	5.6792	3.2000e-004	0.0000	0.0000	5.6873

3.3 Classroom Soil Remediation - 2022
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					0.3669	0.0000	0.3669	0.1886	0.0000	0.1886	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0644	0.5818	0.5245	1.4400e-003		0.0240	0.0240		0.0220	0.0220	0.0000	126.3519	126.3519	0.0409	0.0000	127.3735
Total	0.0644	0.5818	0.5245	1.4400e-003	0.3669	0.0240	0.3909	0.1886	0.0220	0.2106	0.0000	126.3519	126.3519	0.0409	0.0000	127.3735

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	3.4000e-004	9.5300e-003	2.6700e-003	3.0000e-005	8.4000e-004	3.0000e-005	8.7000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	3.3436	3.3436	2.1000e-004	0.0000	0.0000	3.3488
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	0.0000
Worker	2.2600e-003	1.6900e-003	0.0195	6.0000e-005	6.1400e-003	5.0000e-005	6.1900e-003	1.6300e-003	5.0000e-005	1.6700e-003	0.0000	5.3433	5.3433	1.5000e-004	0.0000	0.0000	5.3470
Total	2.6000e-003	0.0112	0.0222	9.0000e-005	6.9800e-003	8.0000e-005	7.0600e-003	1.8600e-003	8.0000e-005	1.9300e-003	0.0000	8.6869	8.6869	3.6000e-004	0.0000	0.0000	8.6957

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					0.1651	0.0000	0.1651	0.0849	0.0000	0.0849	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0644	0.5818	0.5245	1.4400e-003		0.0240	0.0240	0.0220	0.0220	0.0220	0.0000	126.3518	126.3518	0.0409	0.0000	127.3734
Total	0.0644	0.5818	0.5245	1.4400e-003	0.1651	0.0240	0.1891	0.0849	0.0220	0.1069	0.0000	126.3518	126.3518	0.0409	0.0000	127.3734

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	
	tons/yr																
	MT/yr																
Hauling	3.4000e-004	9.5300e-003	2.6700e-003	3.0000e-005	8.4000e-004	3.0000e-005	8.7000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	3.3436	3.3436	2.1000e-004	0.0000	0.0000	3.3488
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	0.0000
Worker	2.2600e-003	1.6900e-003	0.0195	6.0000e-005	6.1400e-003	5.0000e-005	6.1900e-003	1.6300e-003	5.0000e-005	1.6700e-003	0.0000	5.3433	5.3433	1.5000e-004	0.0000	0.0000	5.3470
Total	2.6000e-003	0.0112	0.0222	9.0000e-005	6.9800e-003	8.0000e-005	7.0600e-003	1.8600e-003	8.0000e-005	1.9300e-003	0.0000	8.6869	8.6869	3.6000e-004	0.0000	0.0000	8.6957

3.4 Athletic Field Soil Remediation - 2023

Unmitigated 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					0.2884	0.0000	0.2884	0.1482	0.0000	0.1482	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0474	0.4089	0.4075	1.1300e-003	0.0163	0.0163	0.0163	0.0150	0.0150	0.0150	0.0000	99.3354	99.3354	0.0321	0.0000	100.1386
Total	0.0474	0.4089	0.4075	1.1300e-003	0.2884	0.0163	0.3046	0.1482	0.0150	0.1631	0.0000	99.3354	99.3354	0.0321	0.0000	100.1386

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	
M/T/yr																	
tons/yr																	
Hauling	9.1000e-004	0.0237	0.0102	1.4000e-004	3.4900e-003	6.0000e-005	3.5500e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	13.3595	13.3595	8.3000e-004	0.0000	0.0000	13.3802
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	0.0000
Worker	1.6700e-003	1.2000e-003	0.0141	4.0000e-005	4.8200e-003	4.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.0447	4.0447	1.0000e-004	0.0000	0.0000	4.0473
Total	2.5800e-003	0.0249	0.0243	1.8000e-004	8.3100e-003	1.0000e-004	8.4100e-003	2.2400e-003	9.0000e-005	2.3300e-003	0.0000	17.4042	17.4042	9.3000e-004	0.0000	0.0000	17.4274

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
M/T/yr																
tons/yr																
Fugitive Dust					0.1298	0.0000	0.1298	0.0667	0.0000	0.0667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0474	0.4089	0.4075	1.1300e-003		0.0163	0.0163	0.0150	0.0150	0.0150	0.0000	99.3353	99.3353	0.0321	0.0000	100.1384
Total	0.0474	0.4089	0.4075	1.1300e-003	0.1298	0.0163	0.1460	0.0667	0.0150	0.0816	0.0000	99.3353	99.3353	0.0321	0.0000	100.1384

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	
	M/T/yr																
	tons/yr																
Hauling	9.1000e-004	0.0237	0.0102	1.4000e-004	3.4900e-003	6.0000e-005	3.5500e-003	9.6000e-004	6.0000e-005	1.0100e-003	0.0000	13.3595	13.3595	8.3000e-004	0.0000	0.0000	13.3802
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	0.0000
Worker	1.6700e-003	1.2000e-003	0.0141	4.0000e-005	4.8200e-003	4.0000e-005	4.8600e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.0447	4.0447	1.0000e-004	0.0000	0.0000	4.0473
Total	2.5800e-003	0.0249	0.0243	1.8000e-004	8.3100e-003	1.0000e-004	8.4100e-003	2.2400e-003	9.0000e-005	2.3300e-003	0.0000	17.4042	17.4042	9.3000e-004	0.0000	0.0000	17.4274

3.5 Classroom Upgrades - 2022

Unmitigated 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
	M/T/yr															
	tons/yr															
Off-Road	0.1432	1.2437	1.0188	3.0200e-003		0.0546	0.0546		0.0503	0.0503	0.0000	265.4100	265.4100	0.0858	0.0000	267.5660
Total	0.1432	1.2437	1.0188	3.0200e-003		0.0546	0.0546		0.0503	0.0503	0.0000	265.4100	265.4100	0.0858	0.0000	267.5660

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	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	6.6900e-003	0.2153	0.0581	5.8000e-004	0.0145	4.0000e-004	0.0149	4.1700e-003	3.9000e-004	4.5600e-003	0.0000	56.0985	56.0985	3.3500e-003	0.0000	56.1823
Worker	0.0237	0.0178	0.2049	6.2000e-004	0.0644	5.1000e-004	0.0650	0.0171	4.7000e-004	0.0176	0.0000	56.1043	56.1043	1.5500e-003	0.0000	56.1429
Total	0.0304	0.2331	0.2630	1.2000e-003	0.0789	9.1000e-004	0.0798	0.0213	8.6000e-004	0.0222	0.0000	112.2028	112.2028	4.9000e-003	0.0000	112.3252

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															
Off-Road	0.1432	1.2437	1.0188	3.0200e-003	0.0546	0.0546	0.0546	0.0503	0.0503	0.0503	0.0000	265.4097	265.4097	0.0858	0.0000	267.5557
Total	0.1432	1.2437	1.0188	3.0200e-003	0.0546	0.0546	0.0546	0.0503	0.0503	0.0503	0.0000	265.4097	265.4097	0.0858	0.0000	267.5557

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
	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	6.6900e-003	0.2153	0.0581	5.8000e-004	0.0145	4.0000e-004	0.0149	4.1700e-003	3.9000e-004	4.5600e-003	0.0000	56.0985	56.0985	3.3500e-003	0.0000	56.1823
Worker	0.0237	0.0178	0.2049	6.2000e-004	0.0644	5.1000e-004	0.0650	0.0171	4.7000e-004	0.0176	0.0000	56.1043	56.1043	1.5500e-003	0.0000	56.1429
Total	0.0304	0.2331	0.2630	1.2000e-003	0.0789	9.1000e-004	0.0798	0.0213	8.6000e-004	0.0222	0.0000	112.2028	112.2028	4.9000e-003	0.0000	112.3252

3.6 Athletic Field Improvements - 2023

Unmitigated 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															
Off-Road	0.1359	1.1109	1.0736	2.8500e-003	0.0492	0.0492	0.0492	0.0459	0.0459	0.0459	0.0000	247.7311	247.7311	0.0714	0.0000	249.5160
Total	0.1359	1.1109	1.0736	2.8500e-003	0.0492	0.0492	0.0492	0.0459	0.0459	0.0459	0.0000	247.7311	247.7311	0.0714	0.0000	249.5160

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																
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	4.1700e-003	3.0100e-003	0.0352	1.1000e-004	0.0121	9.0000e-005	0.0122	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.1116	10.1116	2.6000e-004	0.0000	10.1181
Total	4.1700e-003	3.0100e-003	0.0352	1.1000e-004	0.0121	9.0000e-005	0.0122	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.1116	10.1116	2.6000e-004	0.0000	10.1181
MT/yr																

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																
Off-Road	0.1359	1.1109	1.0736	2.8500e-003	0.0492	0.0492	0.0492	0.0459	0.0459	0.0459	0.0000	247.7308	247.7308	0.0714	0.0000	249.5157
Total	0.1359	1.1109	1.0736	2.8500e-003	0.0492	0.0492	0.0492	0.0459	0.0459	0.0459	0.0000	247.7308	247.7308	0.0714	0.0000	249.5157
MT/yr																

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
tons/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	4.1700e-003	3.0100e-003	0.0352	1.1000e-004	0.0121	9.0000e-005	0.0122	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.1116	10.1116	2.6000e-004	0.0000	10.1181
Total	4.1700e-003	3.0100e-003	0.0352	1.1000e-004	0.0121	9.0000e-005	0.0122	3.2000e-003	9.0000e-005	3.2900e-003	0.0000	10.1116	10.1116	2.6000e-004	0.0000	10.1181
MT/yr																

GHG Emissions from HVAC Energy Use

The following formulas obtained from: ASHP_Sav_Calc.xls

https://www.energystar.gov/sites/default/files/asset/document/ASHP_Sav_Calc.xls

With Programmable Thermostat

Energy Consumption (kWh) = 1-1.7%(Prog Therm)*No of Units*(BTU/Hour)/1000 * (Cooling Usage Hours/SEER Rating)

No Programmable Thermostat

Energy Consumption = No of Units* (BTU/Hour)/1000 * (Cooling Usage Hours/SEER Rating)

Input Assumptions

No. of HVAC Units =	21		
HVAC Unit BTU/hour Rating =	45,000	average rooftop HVAC BTU/hour rating	
Cooling Usage Hours =	1,093	per year	Average Cooling hours for Los Angeles (EPA 2002) = 1530
SEER Rating =	13	Conventional (Non-EnergyStar) HVAC Unit	No weekend use = 1,347
SCE Pounds of CO ₂ e per MWh =	507		
1 metric ton =	2,204.6	pounds	

No Programmable Thermostat

Energy Usage =	79,442	kWh
	79.4	MWh
	40,277	pounds of CO ₂ per year
	18.3	tons of CO₂ Per Year

With Programmable Thermostat

Energy Usage =	65,937	kWh
	65.9	MWh
	33,430	pounds of CO ₂ per year
	15.2	tons of CO₂ Per Year