

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

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Yolo/Solano AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	160.00	Dwelling Unit	4.50	138,431.00	458
Research & Development	27.00	1000sqft	0.00	27,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	6.8	Precipitation Freq (Days)	55
Climate Zone	2			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 -
 Land Use - Mixed Use Multi-Story Building.
 Construction Phase - No Demolition.
 Road Dust - Project located in urbanized portion of the city.
 Woodstoves - No woodstoves or fireplaces.
 Land Use Change -
 Sequestration -

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	6/28/2021	5/31/2021
tblFireplaces	NumberGas	88.00	0.00
tblFireplaces	NumberNoFireplace	16.00	160.00
tblFireplaces	NumberWood	56.00	0.00
tblLandUse	LandUseSquareFeet	160,000.00	138,431.00
tblLandUse	LotAcreage	4.21	4.50
tblLandUse	LotAcreage	0.62	0.00
tblRoadDust	RoadPercentPave	94	100
tblSequestration	NumberOfNewTrees	0.00	80.00
tblWoodstoves	NumberCatalytic	8.00	0.00
tblWoodstoves	NumberNoncatalytic	8.00	0.00

2.0 Emissions Summary

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2021	8-31-2021	0.5836	0.5836
2	9-1-2021	11-30-2021	0.7285	0.7285
3	12-1-2021	2-28-2022	0.6750	0.6750
4	3-1-2022	5-31-2022	0.6640	0.6640
5	6-1-2022	8-31-2022	1.1315	1.1315
		Highest	1.1315	1.1315

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	0.7874	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879
Energy	0.0111	0.0965	0.0513	6.1000e-004		7.6900e-003	7.6900e-003		7.6900e-003	7.6900e-003	0.0000	374.5802	374.5802	0.0141	4.4900e-003	376.2708
Mobile	0.3722	2.7554	3.8939	0.0165	1.1694	0.0139	1.1833	0.3148	0.0131	0.3279	0.0000	1,523.4303	1,523.4303	0.0773	0.0000	1,525.3628
Waste						0.0000	0.0000		0.0000	0.0000	15.3563	0.0000	15.3563	0.9075	0.0000	38.0445
Water						0.0000	0.0000		0.0000	0.0000	7.5190	43.9989	51.5179	0.7743	0.0187	76.4313
Total	1.1707	2.8657	5.1348	0.0172	1.1694	0.0282	1.1976	0.3148	0.0273	0.3421	22.8753	1,943.9505	1,966.8258	1.7750	0.0231	2,018.0973

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	56.6400
Vegetation Land Change	-19.3950
Total	37.2450

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	6/1/2021	5/31/2021	5	0	None
2	Site Preparation	Site Preparation	6/29/2021	7/5/2021	5	5	
3	Grading	Grading	7/6/2021	7/15/2021	5	8	
4	Building Construction	Building Construction	7/16/2021	6/2/2022	5	230	
5	Paving	Paving	6/3/2022	6/28/2022	5	18	
6	Architectural Coating	Architectural Coating	6/29/2022	7/22/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

Residential Indoor: 280,323; Residential Outdoor: 93,441; Non-Residential Indoor: 40,500; Non-Residential Outdoor: 13,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.2 Demolition - 2021

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

3.3 Site Preparation - 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					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	9.7200e-003	0.1012	0.0529	1.0000e-004	0.0452	5.1100e-003	0.0503	0.0248	4.7000e-003	0.0295	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.3 Site Preparation - 2021

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	1.5000e-004	9.0000e-005	9.9000e-004	0.0000	0.0341	0.0000	0.0341	3.4500e-003	0.0000	3.4500e-003	0.0000	0.2914	0.2914	1.0000e-005	0.0000	0.2915
Total	1.5000e-004	9.0000e-005	9.9000e-004	0.0000	0.0341	0.0000	0.0341	3.4500e-003	0.0000	3.4500e-003	0.0000	0.2914	0.2914	1.0000e-005	0.0000	0.2915

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	9.7200e-003	0.1012	0.0529	1.0000e-004	0.0452	5.1100e-003	0.0503	0.0248	4.7000e-003	0.0295	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.3 Site Preparation - 2021

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	1.5000e-004	9.0000e-005	9.9000e-004	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2914	0.2914	1.0000e-005	0.0000	0.2915
Total	1.5000e-004	9.0000e-005	9.9000e-004	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2914	0.2914	1.0000e-005	0.0000	0.2915

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
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	9.1600e-003	0.0990	0.0634	1.2000e-004	0.0262	4.6400e-003	0.0309	0.0135	4.2700e-003	0.0177	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.4 Grading - 2021

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	1.9000e-004	1.3000e-004	1.3200e-003	0.0000	0.0454	0.0000	0.0454	4.6000e-003	0.0000	4.6000e-003	0.0000	0.3885	0.3885	1.0000e-005	0.0000	0.3887
Total	1.9000e-004	1.3000e-004	1.3200e-003	0.0000	0.0454	0.0000	0.0454	4.6000e-003	0.0000	4.6000e-003	0.0000	0.3885	0.3885	1.0000e-005	0.0000	0.3887

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	9.1600e-003	0.0990	0.0634	1.2000e-004	0.0262	4.6400e-003	0.0309	0.0135	4.2700e-003	0.0177	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.4 Grading - 2021

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	1.9000e-004	1.3000e-004	1.3200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3885	0.3885	1.0000e-005	0.0000	0.3887
Total	1.9000e-004	1.3000e-004	1.3200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3885	0.3885	1.0000e-005	0.0000	0.3887

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	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1406	140.1406	0.0338	0.0000	140.9858
Total	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1406	140.1406	0.0338	0.0000	140.9858

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.5 Building Construction - 2021

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	3.9600e-003	0.1402	0.0262	3.7000e-004	0.7068	3.3000e-004	0.7071	0.0721	3.1000e-004	0.0724	0.0000	35.0301	35.0301	2.0700e-003	0.0000	35.0819
Worker	0.0243	0.0158	0.1649	5.4000e-004	5.6785	3.8000e-004	5.6789	0.5754	3.5000e-004	0.5757	0.0000	48.5720	48.5720	1.1400e-003	0.0000	48.6004
Total	0.0283	0.1560	0.1911	9.1000e-004	6.3853	7.1000e-004	6.3860	0.6475	6.6000e-004	0.6481	0.0000	83.6021	83.6021	3.2100e-003	0.0000	83.6824

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	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1404	140.1404	0.0338	0.0000	140.9856
Total	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1404	140.1404	0.0338	0.0000	140.9856

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.5 Building Construction - 2021

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	3.9600e-003	0.1402	0.0262	3.7000e-004	8.0500e-003	3.3000e-004	8.3800e-003	2.3400e-003	3.1000e-004	2.6600e-003	0.0000	35.0301	35.0301	2.0700e-003	0.0000	35.0819
Worker	0.0243	0.0158	0.1649	5.4000e-004	0.0523	3.8000e-004	0.0527	0.0140	3.5000e-004	0.0143	0.0000	48.5720	48.5720	1.1400e-003	0.0000	48.6004
Total	0.0283	0.1560	0.1911	9.1000e-004	0.0604	7.1000e-004	0.0611	0.0163	6.6000e-004	0.0170	0.0000	83.6021	83.6021	3.2100e-003	0.0000	83.6824

3.5 Building Construction - 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					
Off-Road	0.0930	0.8511	0.8918	1.4700e-003		0.0441	0.0441		0.0415	0.0415	0.0000	126.2903	126.2903	0.0303	0.0000	127.0467
Total	0.0930	0.8511	0.8918	1.4700e-003		0.0441	0.0441		0.0415	0.0415	0.0000	126.2903	126.2903	0.0303	0.0000	127.0467

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.5 Building Construction - 2022

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	3.3000e-003	0.1199	0.0217	3.3000e-004	0.6367	2.5000e-004	0.6369	0.0649	2.4000e-004	0.0652	0.0000	31.2560	31.2560	1.7700e-003	0.0000	31.3001
Worker	0.0205	0.0128	0.1364	4.7000e-004	5.1153	3.3000e-004	5.1157	0.5183	3.1000e-004	0.5186	0.0000	42.1565	42.1565	9.2000e-004	0.0000	42.1795
Total	0.0238	0.1327	0.1581	8.0000e-004	5.7520	5.8000e-004	5.7526	0.5833	5.5000e-004	0.5838	0.0000	73.4125	73.4125	2.6900e-003	0.0000	73.4796

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	0.0930	0.8511	0.8918	1.4700e-003		0.0441	0.0441		0.0415	0.0415	0.0000	126.2901	126.2901	0.0303	0.0000	127.0465
Total	0.0930	0.8511	0.8918	1.4700e-003		0.0441	0.0441		0.0415	0.0415	0.0000	126.2901	126.2901	0.0303	0.0000	127.0465

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.5 Building Construction - 2022

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	3.3000e-003	0.1199	0.0217	3.3000e-004	7.2500e-003	2.5000e-004	7.5100e-003	2.1100e-003	2.4000e-004	2.3500e-003	0.0000	31.2560	31.2560	1.7700e-003	0.0000	31.3001
Worker	0.0205	0.0128	0.1364	4.7000e-004	0.0472	3.3000e-004	0.0475	0.0126	3.1000e-004	0.0129	0.0000	42.1565	42.1565	9.2000e-004	0.0000	42.1795
Total	0.0238	0.1327	0.1581	8.0000e-004	0.0544	5.8000e-004	0.0550	0.0147	5.5000e-004	0.0153	0.0000	73.4125	73.4125	2.6900e-003	0.0000	73.4796

3.6 Paving - 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					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.6 Paving - 2022

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	5.5000e-004	3.4000e-004	3.6300e-003	1.0000e-005	0.1363	1.0000e-005	0.1363	0.0138	1.0000e-005	0.0138	0.0000	1.1228	1.1228	2.0000e-005	0.0000	1.1235
Total	5.5000e-004	3.4000e-004	3.6300e-003	1.0000e-005	0.1363	1.0000e-005	0.1363	0.0138	1.0000e-005	0.0138	0.0000	1.1228	1.1228	2.0000e-005	0.0000	1.1235

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	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.6 Paving - 2022

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	5.5000e-004	3.4000e-004	3.6300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2600e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.1228	1.1228	2.0000e-005	0.0000	1.1235
Total	5.5000e-004	3.4000e-004	3.6300e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2600e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.1228	1.1228	2.0000e-005	0.0000	1.1235

3.7 Architectural Coating - 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					
Archit. Coating	1.0539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	1.0558	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.7 Architectural Coating - 2022

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	6.8000e-004	4.3000e-004	4.5400e-003	2.0000e-005	0.1703	1.0000e-005	0.1703	0.0173	1.0000e-005	0.0173	0.0000	1.4036	1.4036	3.0000e-005	0.0000	1.4043
Total	6.8000e-004	4.3000e-004	4.5400e-003	2.0000e-005	0.1703	1.0000e-005	0.1703	0.0173	1.0000e-005	0.0173	0.0000	1.4036	1.4036	3.0000e-005	0.0000	1.4043

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	1.0539					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	1.0558	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

3.7 Architectural Coating - 2022

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	6.8000e-004	4.3000e-004	4.5400e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4036	1.4036	3.0000e-005	0.0000	1.4043
Total	6.8000e-004	4.3000e-004	4.5400e-003	2.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4036	1.4036	3.0000e-005	0.0000	1.4043

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

	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	0.3722	2.7554	3.8939	0.0165	1.1694	0.0139	1.1833	0.3148	0.0131	0.3279	0.0000	1,523.4303	1,523.4303	0.0773	0.0000	1,525.3628
Unmitigated	0.3722	2.7554	3.8939	0.0165	1.1694	0.0139	1.1833	0.3148	0.0131	0.3279	0.0000	1,523.4303	1,523.4303	0.0773	0.0000	1,525.3628

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,064.00	1,022.40	937.60	2,729,228	2,729,228
Research & Development	218.97	51.30	29.97	368,859	368,859
Total	1,282.97	1,073.70	967.57	3,098,087	3,098,087

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
Apartments Mid Rise	10.00	5.00	7.00	46.00	13.00	41.00	86	11	3
Research & Development	10.00	5.00	7.00	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.523474	0.037926	0.194068	0.114815	0.021291	0.005457	0.036110	0.054974	0.001332	0.002002	0.006933	0.000689	0.000929
Research & Development	0.523474	0.037926	0.194068	0.114815	0.021291	0.005457	0.036110	0.054974	0.001332	0.002002	0.006933	0.000689	0.000929

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

5.0 Energy Detail

Historical Energy Use: N

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	264.4919	264.4919	0.0120	2.4700e-003	265.5283
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	264.4919	264.4919	0.0120	2.4700e-003	265.5283
NaturalGas Mitigated	0.0111	0.0965	0.0513	6.1000e-004		7.6900e-003	7.6900e-003		7.6900e-003	7.6900e-003	0.0000	110.0883	110.0883	2.1100e-003	2.0200e-003	110.7425
NaturalGas Unmitigated	0.0111	0.0965	0.0513	6.1000e-004		7.6900e-003	7.6900e-003		7.6900e-003	7.6900e-003	0.0000	110.0883	110.0883	2.1100e-003	2.0200e-003	110.7425

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

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					
Apartments Mid Rise	1.5597e+006	8.4100e-003	0.0719	0.0306	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.2313	83.2313	1.6000e-003	1.5300e-003	83.7259
Research & Development	503280	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	26.8569	26.8569	5.1000e-004	4.9000e-004	27.0165
Total		0.0111	0.0965	0.0513	6.1000e-004		7.6800e-003	7.6800e-003		7.6800e-003	7.6800e-003	0.0000	110.0883	110.0883	2.1100e-003	2.0200e-003	110.7425

Mitigated

	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					
Apartments Mid Rise	1.5597e+006	8.4100e-003	0.0719	0.0306	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.2313	83.2313	1.6000e-003	1.5300e-003	83.7259
Research & Development	503280	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	26.8569	26.8569	5.1000e-004	4.9000e-004	27.0165
Total		0.0111	0.0965	0.0513	6.1000e-004		7.6800e-003	7.6800e-003		7.6800e-003	7.6800e-003	0.0000	110.0883	110.0883	2.1100e-003	2.0200e-003	110.7425

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	681034	198.1205	8.9600e-003	1.8500e-003	198.8968
Research & Development	228150	66.3715	3.0000e-003	6.2000e-004	66.6315
Total		264.4919	0.0120	2.4700e-003	265.5283

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	681034	198.1205	8.9600e-003	1.8500e-003	198.8968
Research & Development	228150	66.3715	3.0000e-003	6.2000e-004	66.6315
Total		264.4919	0.0120	2.4700e-003	265.5283

6.0 Area Detail

6.1 Mitigation Measures Area

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

	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	0.7874	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879
Unmitigated	0.7874	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879

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	0.1054					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6461					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	0.0359	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879
Total	0.7874	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

6.2 Area by SubCategory

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	0.1054					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6461					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	0.0359	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879
Total	0.7874	0.0137	1.1896	6.0000e-005		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	1.9411	1.9411	1.8700e-003	0.0000	1.9879

7.0 Water Detail

7.1 Mitigation Measures Water

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	51.5179	0.7743	0.0187	76.4313
Unmitigated	51.5179	0.7743	0.0187	76.4313

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	10.4246 / 6.57206	26.4085	0.3407	8.2400e-003	37.3814
Research & Development	13.2757 / 0	25.1094	0.4335	0.0104	39.0499
Total		51.5179	0.7743	0.0187	76.4313

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	10.4246 / 6.57206	26.4085	0.3407	8.2400e-003	37.3814
Research & Development	13.2757 / 0	25.1094	0.4335	0.0104	39.0499
Total		51.5179	0.7743	0.0187	76.4313

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.3563	0.9075	0.0000	38.0445
Unmitigated	15.3563	0.9075	0.0000	38.0445

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	73.6	14.9401	0.8829	0.0000	37.0136
Research & Development	2.05	0.4161	0.0246	0.0000	1.0310
Total		15.3563	0.9075	0.0000	38.0445

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	73.6	14.9401	0.8829	0.0000	37.0136
Research & Development	2.05	0.4161	0.0246	0.0000	1.0310
Total		15.3563	0.9075	0.0000	38.0445

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	37.2450	0.0000	0.0000	37.2450

University Research Park Mixed Use - Yolo/Solano AQMD Air District, Annual

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	4.5 / 0	-19.3950	0.0000	0.0000	-19.3950
Total		-19.3950	0.0000	0.0000	-19.3950

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	80	56.6400	0.0000	0.0000	56.6400
Total		56.6400	0.0000	0.0000	56.6400