

**Appendix A:  
Air Quality and Greenhouse Gas Emissions Modeling Assumptions**

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## **A.1 - AQ and GHG Modeling Assumptions**

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**Shiloh Mixed Use Project Construction Assumptions**

CalEEMod output file: Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual

Time stamp: Date: 3/6/2020 3:08 PM

**On-site Construction**

Phase Name	Phase Type	Start Date	End Date	Num Days	
				Week	Num Days
Demolition	Demolition	6/1/2020	6/11/2020	6	10
Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15
Grading	Grading	6/30/2020	7/10/2020	6	10
Paving	Paving	7/11/2020	7/22/2020	6	10
Building Construction	Building Construction	7/23/2020	2/27/2021	6	189
Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
Demolition	Rubber Tired Dozers	1	8	247	0.4
Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37
Site Preparation	Graders	1	8	187	0.41
Site Preparation	Rubber Tired Dozers	1	7	247	0.4
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Graders	1	6	187	0.41
Grading	Rubber Tired Dozers	1	6	247	0.4
Grading	Tractors/Loaders/Backhoes	1	7	97	0.37
Paving	Cement and Mortar Mixers	1	6	9	0.56
Paving	Pavers	1	6	130	0.42
Paving	Paving Equipment	1	8	132	0.36
Paving	Rollers	1	7	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37
Building Construction	Cranes	1	6	231	0.29
Building Construction	Forklifts	1	6	89	0.2
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37
Building Construction	Welders	3	8	46	0.45
Architectural Coating	Air Compressors	1	6	78	0.48

**Trips and VMT**

Phase Name	Worker Trip Number	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip
		Number	Number	Length	Length	Length
Demolition	13	0	32	10.8	7.3	20
Site Preparation	8	0	0	10.8	7.3	20
Grading	8	0	375	10.8	7.3	20
Paving	13	0	0	10.8	7.3	20
Building Construction	34	9	0	10.8	7.3	20
Architectural Coating	7	0	0	10.8	7.3	20

**Offsite Construction (Roadway Improvements)**

Phase Name	Phase Type	Start Date	End Date	Num Days	
				Week	Num Days
Paving	Paving	7/19/2020	7/24/2020	5	5

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	6	9	0.56
Paving	Pavers	1	7	130	0.42
Paving	Rollers	1	7	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7	97	0.37

**Trips and VMT**

Phase Name	Worker Trip Number	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip
		Number	Number	Length	Length	Length
Paving	18	0	0	10.8	7.3	20

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## **A.2 - CalEEMod Output Files**

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Shiloh Mixed Use Project - Existing 2021 - Sonoma-North Coast County, Annual

**Shiloh Mixed Use Project - Existing 2021  
Sonoma-North Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>	2021		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	390.65	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Operation only for existing single family residence on project site.

CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Operation only for existing single family residence on project site.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65



## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4300e-003	0.0180	0.0412	1.3000e-004	0.0101	1.3000e-004	0.0102	2.7100e-003	1.2000e-004	2.8300e-003	0.0000	11.5987	11.5987	5.0000e-004	0.0000	11.6110
Unmitigated	3.4300e-003	0.0180	0.0412	1.3000e-004	0.0101	1.3000e-004	0.0102	2.7100e-003	1.2000e-004	2.8300e-003	0.0000	11.5987	11.5987	5.0000e-004	0.0000	11.6110

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.52	9.91	8.62	27,101	27,101
Total	9.52	9.91	8.62	27,101	27,101

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3

### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

## 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	1.4336	1.4336	1.1000e-004	2.0000e-005	1.4428
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.4336	1.4336	1.1000e-004	2.0000e-005	1.4428
NaturalGas Mitigated	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
NaturalGas Unmitigated	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602

## 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					
Single Family Housing	29065.1	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
<b>Total</b>		<b>1.6000e-004</b>	<b>1.3400e-003</b>	<b>5.7000e-004</b>	<b>1.0000e-005</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.5510</b>	<b>1.5510</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.5602</b>

### 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					
Single Family Housing	29065.1	1.6000e-004	1.3400e-003	5.7000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
<b>Total</b>		<b>1.6000e-004</b>	<b>1.3400e-003</b>	<b>5.7000e-004</b>	<b>1.0000e-005</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.5510</b>	<b>1.5510</b>	<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>1.5602</b>

## 5.3 Energy by Land Use - Electricity

### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	8090.57	1.4336	1.1000e-004	2.0000e-005	1.4428
<b>Total</b>		<b>1.4336</b>	<b>1.1000e-004</b>	<b>2.0000e-005</b>	<b>1.4428</b>

### Mitigated

Land Use	kWh/yr	MT/yr			
Single Family Housing	8090.57	1.4336	1.1000e-004	2.0000e-005	1.4428
<b>Total</b>		<b>1.4336</b>	<b>1.1000e-004</b>	<b>2.0000e-005</b>	<b>1.4428</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated	0.0728	1.3100e-003	0.0849	1.4000e-004		0.0109	0.0109		0.0109	0.0109	1.0330	0.4453	1.4783	9.7000e-004	8.0000e-005	1.5266

### 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	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0628	1.2300e-003	0.0775	1.4000e-004		0.0109	0.0109		0.0109	0.0109	1.0330	0.4332	1.4662	9.5000e-004	8.0000e-005	1.5142
Landscaping	2.3000e-004	9.0000e-005	7.4400e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124
<b>Total</b>	<b>0.0728</b>	<b>1.3200e-003</b>	<b>0.0849</b>	<b>1.4000e-004</b>		<b>0.0109</b>	<b>0.0109</b>		<b>0.0109</b>	<b>0.0109</b>	<b>1.0330</b>	<b>0.4453</b>	<b>1.4783</b>	<b>9.6000e-004</b>	<b>8.0000e-005</b>	<b>1.5266</b>

#### 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	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0628	1.2300e-003	0.0775	1.4000e-004		0.0109	0.0109		0.0109	0.0109	1.0330	0.4332	1.4662	9.5000e-004	8.0000e-005	1.5142
Landscaping	2.3000e-004	9.0000e-005	7.4400e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124
<b>Total</b>	<b>0.0728</b>	<b>1.3200e-003</b>	<b>0.0849</b>	<b>1.4000e-004</b>		<b>0.0109</b>	<b>0.0109</b>		<b>0.0109</b>	<b>0.0109</b>	<b>1.0330</b>	<b>0.4453</b>	<b>1.4783</b>	<b>9.6000e-004</b>	<b>8.0000e-005</b>	<b>1.5266</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.1086	2.1300e-003	5.0000e-005	0.1772
Unmitigated	0.1086	2.1300e-003	5.0000e-005	0.1772

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.065154 / 0.0410754	0.1086	2.1300e-003	5.0000e-005	0.1772
<b>Total</b>		<b>0.1086</b>	<b>2.1300e-003</b>	<b>5.0000e-005</b>	<b>0.1772</b>

#### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.065154 / 0.0410754	0.1086	2.1300e-003	5.0000e-005	0.1772
<b>Total</b>		<b>0.1086</b>	<b>2.1300e-003</b>	<b>5.0000e-005</b>	<b>0.1772</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2558	0.0151	0.0000	0.6337
Unmitigated	0.2558	0.0151	0.0000	0.6337

## 8.2 Waste by Land Use

### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
<b>Total</b>		<b>0.2558</b>	<b>0.0151</b>	<b>0.0000</b>	<b>0.6337</b>

### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
<b>Total</b>		<b>0.2558</b>	<b>0.0151</b>	<b>0.0000</b>	<b>0.6337</b>

## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation

Shiloh Mixed Use Project - Existing 2021 - Sonoma-North Coast County, Summer

**Shiloh Mixed Use Project - Existing 2021**  
**Sonoma-North Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>	2021		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	390.65	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Operation only for existing single family residence on project site.

CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Operation only for existing single family residence on project site.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65





## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0220	0.1001	0.2439	7.6000e-004	0.0606	7.5000e-004	0.0614	0.0163	7.1000e-004	0.0170		77.1940	77.1940	3.1700e-003		77.2731
Unmitigated	0.0220	0.1001	0.2439	7.6000e-004	0.0606	7.5000e-004	0.0614	0.0163	7.1000e-004	0.0170		77.1940	77.1940	3.1700e-003		77.2731

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.52	9.91	8.62	27,101	27,101
Total	9.52	9.91	8.62	27,101	27,101

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3

### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

## 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	lb/day										lb/day					
NaturalGas Mitigated	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
NaturalGas Unmitigated	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240

## 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	lb/day										lb/day					
Single Family Housing	79.6304	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
<b>Total</b>		<b>8.6000e-004</b>	<b>7.3400e-003</b>	<b>3.1200e-003</b>	<b>5.0000e-005</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>9.3683</b>	<b>9.3683</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.4240</b>

### 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	lb/day										lb/day					
Single Family Housing	0.0796304	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
<b>Total</b>		<b>8.6000e-004</b>	<b>7.3400e-003</b>	<b>3.1200e-003</b>	<b>5.0000e-005</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>9.3683</b>	<b>9.3683</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.4240</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626
Unmitigated	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626

## 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	lb/day										lb/day					
Architectural Coating	0.0154					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5304	0.0299	1.8891	3.4200e-003		0.2649	0.2649		0.2649	0.2649	27.7717	11.6471	39.4188	0.0256	2.1800e-003	40.7105
Landscaping	2.5100e-003	9.5000e-004	0.0827	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1522
<b>Total</b>	<b>1.5869</b>	<b>0.0308</b>	<b>1.9718</b>	<b>3.4200e-003</b>		<b>0.2653</b>	<b>0.2653</b>		<b>0.2653</b>	<b>0.2653</b>	<b>27.7717</b>	<b>11.7956</b>	<b>39.5673</b>	<b>0.0258</b>	<b>2.1800e-003</b>	<b>40.8626</b>

### 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	lb/day										lb/day					
Architectural Coating	0.0154					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5304	0.0299	1.8891	3.4200e-003		0.2649	0.2649		0.2649	0.2649	27.7717	11.6471	39.4188	0.0256	2.1800e-003	40.7105
Landscaping	2.5100e-003	9.5000e-004	0.0827	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1522
<b>Total</b>	<b>1.5869</b>	<b>0.0308</b>	<b>1.9718</b>	<b>3.4200e-003</b>		<b>0.2653</b>	<b>0.2653</b>		<b>0.2653</b>	<b>0.2653</b>	<b>27.7717</b>	<b>11.7956</b>	<b>39.5673</b>	<b>0.0258</b>	<b>2.1800e-003</b>	<b>40.8626</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation

Shiloh Mixed Use Project - Existing 2021 - Sonoma-North Coast County, Winter

**Shiloh Mixed Use Project - Existing 2021**  
**Sonoma-North Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>	2021		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Operation only for existing single family residence on project site.  
 CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Operation only for existing single family residence on project site.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65

**2.0 Emissions Summary**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Category</b>	<b>lb/day</b>										<b>lb/day</b>					
Area	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626
Energy	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
Mobile	0.0197	0.1063	0.2479	7.2000e-004	0.0606	7.6000e-004	0.0614	0.0163	7.1000e-004	0.0170		73.0208	73.0208	3.2200e-003		73.1012
<b>Total</b>	<b>1.6074</b>	<b>0.1445</b>	<b>2.2229</b>	<b>4.2000e-003</b>	<b>0.0606</b>	<b>0.2667</b>	<b>0.3273</b>	<b>0.0163</b>	<b>0.2666</b>	<b>0.2829</b>	<b>27.7717</b>	<b>94.1847</b>	<b>121.9565</b>	<b>0.0292</b>	<b>2.3500e-003</b>	<b>123.3878</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626
Energy	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
Mobile	0.0197	0.1063	0.2479	7.2000e-004	0.0606	7.6000e-004	0.0614	0.0163	7.1000e-004	0.0170		73.0208	73.0208	3.2200e-003		73.1012
<b>Total</b>	<b>1.6074</b>	<b>0.1445</b>	<b>2.2229</b>	<b>4.2000e-003</b>	<b>0.0606</b>	<b>0.2667</b>	<b>0.3273</b>	<b>0.0163</b>	<b>0.2666</b>	<b>0.2829</b>	<b>27.7717</b>	<b>94.1847</b>	<b>121.9565</b>	<b>0.0292</b>	<b>2.3500e-003</b>	<b>123.3878</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0197	0.1063	0.2479	7.2000e-004	0.0606	7.6000e-004	0.0614	0.0163	7.1000e-004	0.0170		73.0208	73.0208	3.2200e-003		73.1012
Unmitigated	0.0197	0.1063	0.2479	7.2000e-004	0.0606	7.6000e-004	0.0614	0.0163	7.1000e-004	0.0170		73.0208	73.0208	3.2200e-003		73.1012

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Single Family Housing	9.52	9.91	8.62	27,101	27,101
<b>Total</b>	<b>9.52</b>	<b>9.91</b>	<b>8.62</b>	<b>27,101</b>	<b>27,101</b>

**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
Single Family Housing	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

#### 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	lb/day										lb/day					
NaturalGas Mitigated	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
NaturalGas Unmitigated	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240

#### 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	lb/day										lb/day					
Single Family Housing	79.6304	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
<b>Total</b>		<b>8.6000e-004</b>	<b>7.3400e-003</b>	<b>3.1200e-003</b>	<b>5.0000e-005</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>9.3683</b>	<b>9.3683</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.4240</b>

##### 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	lb/day										lb/day					
Single Family Housing	0.0796304	8.6000e-004	7.3400e-003	3.1200e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004		9.3683	9.3683	1.8000e-004	1.7000e-004	9.4240
<b>Total</b>		<b>8.6000e-004</b>	<b>7.3400e-003</b>	<b>3.1200e-003</b>	<b>5.0000e-005</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>5.9000e-004</b>	<b>5.9000e-004</b>		<b>9.3683</b>	<b>9.3683</b>	<b>1.8000e-004</b>	<b>1.7000e-004</b>	<b>9.4240</b>



## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626
Unmitigated	1.5869	0.0308	1.9718	3.4300e-003		0.2653	0.2653		0.2653	0.2653	27.7717	11.7956	39.5673	0.0258	2.1800e-003	40.8626

### 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	lb/day										lb/day					
Architectural Coating	0.0154					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5304	0.0299	1.8891	3.4200e-003		0.2649	0.2649		0.2649	0.2649	27.7717	11.6471	39.4188	0.0256	2.1800e-003	40.7105
Landscaping	2.5100e-003	9.5000e-004	0.0827	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1522
<b>Total</b>	<b>1.5869</b>	<b>0.0308</b>	<b>1.9718</b>	<b>3.4200e-003</b>		<b>0.2653</b>	<b>0.2653</b>		<b>0.2653</b>	<b>0.2653</b>	<b>27.7717</b>	<b>11.7956</b>	<b>39.5673</b>	<b>0.0258</b>	<b>2.1800e-003</b>	<b>40.8626</b>

#### 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	lb/day										lb/day					
Architectural Coating	0.0154					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.5304	0.0299	1.8891	3.4200e-003		0.2649	0.2649		0.2649	0.2649	27.7717	11.6471	39.4188	0.0256	2.1800e-003	40.7105
Landscaping	2.5100e-003	9.5000e-004	0.0827	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1522
<b>Total</b>	<b>1.5869</b>	<b>0.0308</b>	<b>1.9718</b>	<b>3.4200e-003</b>		<b>0.2653</b>	<b>0.2653</b>		<b>0.2653</b>	<b>0.2653</b>	<b>27.7717</b>	<b>11.7956</b>	<b>39.5673</b>	<b>0.0258</b>	<b>2.1800e-003</b>	<b>40.8626</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation

Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual

**Shiloh Mixed Use Project 2021**  
**Sonoma-North Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.68	1000sqft	0.04	1,680.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0
Apartments Low Rise	27.00	Dwelling Unit	0.92	21,682.00	50
Convenience Market (24 Hour)	2.84	1000sqft	0.07	2,840.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>		2021	
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	390.65	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction start date provided in project description.  
 CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Sources and further information related to land use table is contained in project workbook spreadsheet.

Construction Phase - Project description shows construction start date of June 2020 and end date of February 2021.

Trips and VMT - 16 additional demolition haul trips (to and from project site) were added to account for removal of 3 electric poles, 1 propane tank, and 6  
 Demolition - Demo debris calculation in appendix.

Grading - Export volume provided by applicant.

Vehicle Trips - Trip rates consistent with ITE land uses #220 (apartments) and #851 (market) used in TJKM TIS (Jan. 2020), and 5 percent reduction to apt. trips in TIS to reflect proximity of apartments to proposed market.

Woodstoves - No woodburning

No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices

Energy Use - Electricity adjusted to be consistent with project energy use in Guttman & Blaevoet letter (Nov 21, 2019). Calculations shown in Air Quality workbook.

Project description: project would be all-electric (natural gas zeroed out).

Construction Off-road Equipment Mitigation - BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Guttman & Blaevoet Consulting Engineers. 2019. Letter to Windsor Planning Division. November 21.

Project would be all-electric, zero net electricity, with on-site solar generating 118% of project energy consumption.

Water Mitigation - Reduction accounts for compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance

Waste Mitigation - Reduction accounts for compliance with the State mandate for recycling—AB 341

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	200.00	189.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	3,172.76	7,726.07
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	365.68	890.48
tblEnergyUse	T24NG	7,043.85	0.00
tblEnergyUse	T24NG	2.37	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberWood	9.45	0.00
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	27,000.00	21,682.00
tblLandUse	LotAcreage	1.69	0.92
tblLandUse	Population	77.00	50.00
tblLandUse	Population	0.00	3.00

tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65
tblTripsAndVMT	HaulingTripNumber	16.00	32.00
tblVehicleTrips	ST_TR	7.16	7.73
tblVehicleTrips	ST_TR	863.10	1,084.17
tblVehicleTrips	SU_TR	6.07	5.97
tblVehicleTrips	SU_TR	758.45	901.17
tblVehicleTrips	WD_TR	6.59	6.95
tblVehicleTrips	WD_TR	737.99	762.28
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1923	1.5319	1.2458	2.4500e-003	0.0977	0.0738	0.1715	0.0426	0.0705	0.1131	0.0000	210.6552	210.6552	0.0363	0.0000	211.5628
2021	0.4348	0.3758	0.3655	6.9000e-004	8.4000e-003	0.0177	0.0261	2.2700e-003	0.0171	0.0194	0.0000	58.5811	58.5811	8.7400e-003	0.0000	58.7996
<b>Maximum</b>	<b>0.4348</b>	<b>1.5319</b>	<b>1.2458</b>	<b>2.4500e-003</b>	<b>0.0977</b>	<b>0.0738</b>	<b>0.1715</b>	<b>0.0426</b>	<b>0.0705</b>	<b>0.1131</b>	<b>0.0000</b>	<b>210.6552</b>	<b>210.6552</b>	<b>0.0363</b>	<b>0.0000</b>	<b>211.5628</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1923	1.5319	1.2458	2.4500e-003	0.0593	0.0738	0.1330	0.0233	0.0705	0.0938	0.0000	210.6550	210.6550	0.0363	0.0000	211.5626
2021	0.4348	0.3758	0.3655	6.9000e-004	8.4000e-003	0.0177	0.0261	2.2700e-003	0.0171	0.0194	0.0000	58.5811	58.5811	8.7400e-003	0.0000	58.7996
<b>Maximum</b>	<b>0.4348</b>	<b>1.5319</b>	<b>1.2458</b>	<b>2.4500e-003</b>	<b>0.0593</b>	<b>0.0738</b>	<b>0.1330</b>	<b>0.0233</b>	<b>0.0705</b>	<b>0.0938</b>	<b>0.0000</b>	<b>210.6550</b>	<b>210.6550</b>	<b>0.0363</b>	<b>0.0000</b>	<b>211.5626</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	36.25	0.00	19.47	43.01	0.00	14.56	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2020	8-31-2020	0.7600	0.7600
2	9-1-2020	11-30-2020	0.7109	0.7109
3	12-1-2020	2-28-2021	1.0289	1.0289
		Highest	1.0289	1.0289

## 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	0.1437	0.0124	0.2060	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.5000e-004	2.1000e-004	12.1031
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	52.4652	52.4652	3.8900e-003	8.1000e-004	52.8028
Mobile	0.6714	2.7764	5.4165	0.0120	0.8636	0.0135	0.8772	0.2324	0.0127	0.2451	0.0000	1,106.3968	1,106.3968	0.0665	0.0000	1,108.0581
Waste						0.0000	0.0000		0.0000	0.0000	4.2527	0.0000	4.2527	0.2513	0.0000	10.5358
Water						0.0000	0.0000		0.0000	0.0000	0.6248	2.6562	3.2810	0.0644	1.5600e-003	5.3541
<b>Total</b>	<b>0.8151</b>	<b>2.7888</b>	<b>5.6224</b>	<b>0.0121</b>	<b>0.8636</b>	<b>0.0154</b>	<b>0.8791</b>	<b>0.2324</b>	<b>0.0146</b>	<b>0.2470</b>	<b>4.8775</b>	<b>1,173.5438</b>	<b>1,178.4213</b>	<b>0.3866</b>	<b>2.5800e-003</b>	<b>1,188.8538</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1437	0.0124	0.2060	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.5000e-004	2.1000e-004	12.1031
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-9.4437	-9.4437	-0.0007	-0.0002	-9.5045
Mobile	0.6714	2.7764	5.4165	0.0120	0.8636	0.0135	0.8772	0.2324	0.0127	0.2451	0.0000	1,106.3968	1,106.3968	0.0665	0.0000	1,108.0581
Waste						0.0000	0.0000		0.0000	0.0000	3.1470	0.0000	3.1470	0.1860	0.0000	7.7965
Water						0.0000	0.0000		0.0000	0.0000	0.4999	2.1249	2.6248	0.0515	1.2400e-003	4.2833
<b>Total</b>	<b>0.8151</b>	<b>2.7888</b>	<b>5.6224</b>	<b>0.0121</b>	<b>0.8636</b>	<b>0.0154</b>	<b>0.8791</b>	<b>0.2324</b>	<b>0.0146</b>	<b>0.2470</b>	<b>3.6468</b>	<b>1,111.1036</b>	<b>1,114.7504</b>	<b>0.3038</b>	<b>1.3000e-003</b>	<b>1,122.7365</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.23	5.32	5.40	21.42	49.61	5.56

**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	6/1/2020	6/11/2020	6	10	10 days of demolition
2	Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15	15 days of site preparation
3	Grading	Grading	6/30/2020	7/10/2020	6	10	10 days of grading
4	Paving	Paving	7/11/2020	7/22/2020	6	10	10 days of paving
5	Building Construction	Building Construction	7/23/2020	2/27/2021	6	189	189 days of building construction (reduced to match construction)
6	Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10	10 days architectural coating

**Acres of Grading (Site Preparation Phase): 7.5**

**Acres of Grading (Grading Phase): 3.75**

**Acres of Paving: 0.76**

**Residential Indoor: 43,906; Residential Outdoor: 14,635; Non-Residential Indoor: 4,260; Non-Residential Outdoor: 1,420; Striped Parking**

## OffRoad Equipment

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

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle	Hauling Vehicle
Demolition	5	13.00	0.00	32.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	34.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT



### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7000e-003	0.0000	1.7000e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		5.7600e-003	5.7600e-003		5.3800e-003	5.3800e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
<b>Total</b>	<b>0.0106</b>	<b>0.1047</b>	<b>0.0733</b>	<b>1.2000e-004</b>	<b>1.7000e-003</b>	<b>5.7600e-003</b>	<b>7.4600e-003</b>	<b>2.6000e-004</b>	<b>5.3800e-003</b>	<b>5.6400e-003</b>	<b>0.0000</b>	<b>10.5338</b>	<b>10.5338</b>	<b>2.7100e-003</b>	<b>0.0000</b>	<b>10.6015</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.7300e-003	9.6000e-004	1.0000e-005	2.7000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.2326	1.2326	8.0000e-005	0.0000	1.2345
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	3.1000e-004	2.3000e-004	2.2600e-003	1.0000e-005	5.1000e-004	0.0000	5.1000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4699	0.4699	2.0000e-005	0.0000	0.4704
<b>Total</b>	<b>4.4000e-004</b>	<b>4.9600e-003</b>	<b>3.2200e-003</b>	<b>2.0000e-005</b>	<b>7.8000e-004</b>	<b>2.0000e-005</b>	<b>7.9000e-004</b>	<b>2.1000e-004</b>	<b>2.0000e-005</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>1.7025</b>	<b>1.7025</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.7048</b>

#### 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					7.7000e-004	0.0000	7.7000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.1047	0.0733	1.2000e-004		5.7600e-003	5.7600e-003		5.3800e-003	5.3800e-003	0.0000	10.5338	10.5338	2.7100e-003	0.0000	10.6015
<b>Total</b>	<b>0.0106</b>	<b>0.1047</b>	<b>0.0733</b>	<b>1.2000e-004</b>	<b>7.7000e-004</b>	<b>5.7600e-003</b>	<b>6.5300e-003</b>	<b>1.2000e-004</b>	<b>5.3800e-003</b>	<b>5.5000e-003</b>	<b>0.0000</b>	<b>10.5338</b>	<b>10.5338</b>	<b>2.7100e-003</b>	<b>0.0000</b>	<b>10.6015</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.7300e-003	9.6000e-004	1.0000e-005	2.7000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	1.2326	1.2326	8.0000e-005	0.0000	1.2345
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	3.1000e-004	2.3000e-004	2.2600e-003	1.0000e-005	5.1000e-004	0.0000	5.1000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4699	0.4699	2.0000e-005	0.0000	0.4704
<b>Total</b>	<b>4.4000e-004</b>	<b>4.9600e-003</b>	<b>3.2200e-003</b>	<b>2.0000e-005</b>	<b>7.8000e-004</b>	<b>2.0000e-005</b>	<b>7.9000e-004</b>	<b>2.1000e-004</b>	<b>2.0000e-005</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>1.7025</b>	<b>1.7025</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.7048</b>

### 3.3 Site Preparation - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0435	0.0000	0.0435	0.0222	0.0000	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.1376	0.0578	1.3000e-004		6.1600e-003	6.1600e-003		5.6600e-003	5.6600e-003	0.0000	11.3449	11.3449	3.6700e-003	0.0000	11.4366
<b>Total</b>	<b>0.0122</b>	<b>0.1376</b>	<b>0.0578</b>	<b>1.3000e-004</b>	<b>0.0435</b>	<b>6.1600e-003</b>	<b>0.0497</b>	<b>0.0222</b>	<b>5.6600e-003</b>	<b>0.0278</b>	<b>0.0000</b>	<b>11.3449</b>	<b>11.3449</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>11.4366</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.1000e-004	2.0900e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4338	0.4338	2.0000e-005	0.0000	0.4342
<b>Total</b>	<b>2.9000e-004</b>	<b>2.1000e-004</b>	<b>2.0900e-003</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4338</b>	<b>0.4338</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4342</b>

### 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					0.0196	0.0000	0.0196	9.9700e-003	0.0000	9.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.1376	0.0578	1.3000e-004		6.1600e-003	6.1600e-003		5.6600e-003	5.6600e-003	0.0000	11.3449	11.3449	3.6700e-003	0.0000	11.4366
<b>Total</b>	<b>0.0122</b>	<b>0.1376</b>	<b>0.0578</b>	<b>1.3000e-004</b>	<b>0.0196</b>	<b>6.1600e-003</b>	<b>0.0257</b>	<b>9.9700e-003</b>	<b>5.6600e-003</b>	<b>0.0156</b>	<b>0.0000</b>	<b>11.3449</b>	<b>11.3449</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>11.4366</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.1000e-004	2.0900e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4338	0.4338	2.0000e-005	0.0000	0.4342
<b>Total</b>	<b>2.9000e-004</b>	<b>2.1000e-004</b>	<b>2.0900e-003</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4338</b>	<b>0.4338</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4342</b>

## 3.4 Grading - 2020

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0247	0.0000	0.0247	0.0127	0.0000	0.0127	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0754	0.0323	7.0000e-005		3.4200e-003	3.4200e-003		3.1500e-003	3.1500e-003	0.0000	6.1948	6.1948	2.0000e-003	0.0000	6.2449
<b>Total</b>	<b>6.7500e-003</b>	<b>0.0754</b>	<b>0.0323</b>	<b>7.0000e-005</b>	<b>0.0247</b>	<b>3.4200e-003</b>	<b>0.0282</b>	<b>0.0127</b>	<b>3.1500e-003</b>	<b>0.0158</b>	<b>0.0000</b>	<b>6.1948</b>	<b>6.1948</b>	<b>2.0000e-003</b>	<b>0.0000</b>	<b>6.2449</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4900e-003	0.0554	0.0113	1.5000e-004	3.1100e-003	2.0000e-004	3.3100e-003	8.5000e-004	1.9000e-004	1.0400e-003	0.0000	14.4440	14.4440	8.9000e-004	0.0000	14.4662
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	1.4000e-004	1.3900e-003	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2892	0.2892	1.0000e-005	0.0000	0.2895
<b>Total</b>	<b>1.6800e-003</b>	<b>0.0555</b>	<b>0.0127</b>	<b>1.5000e-004</b>	<b>3.4200e-003</b>	<b>2.0000e-004</b>	<b>3.6300e-003</b>	<b>9.3000e-004</b>	<b>1.9000e-004</b>	<b>1.1300e-003</b>	<b>0.0000</b>	<b>14.7332</b>	<b>14.7332</b>	<b>9.0000e-004</b>	<b>0.0000</b>	<b>14.7556</b>

**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					0.0111	0.0000	0.0111	5.6900e-003	0.0000	5.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0754	0.0323	7.0000e-005		3.4200e-003	3.4200e-003		3.1500e-003	3.1500e-003	0.0000	6.1948	6.1948	2.0000e-003	0.0000	6.2449
<b>Total</b>	<b>6.7500e-003</b>	<b>0.0754</b>	<b>0.0323</b>	<b>7.0000e-005</b>	<b>0.0111</b>	<b>3.4200e-003</b>	<b>0.0146</b>	<b>5.6900e-003</b>	<b>3.1500e-003</b>	<b>8.8400e-003</b>	<b>0.0000</b>	<b>6.1948</b>	<b>6.1948</b>	<b>2.0000e-003</b>	<b>0.0000</b>	<b>6.2449</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4900e-003	0.0554	0.0113	1.5000e-004	3.1100e-003	2.0000e-004	3.3100e-003	8.5000e-004	1.9000e-004	1.0400e-003	0.0000	14.4440	14.4440	8.9000e-004	0.0000	14.4662
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	1.4000e-004	1.3900e-003	0.0000	3.1000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2892	0.2892	1.0000e-005	0.0000	0.2895
<b>Total</b>	<b>1.6800e-003</b>	<b>0.0555</b>	<b>0.0127</b>	<b>1.5000e-004</b>	<b>3.4200e-003</b>	<b>2.0000e-004</b>	<b>3.6300e-003</b>	<b>9.3000e-004</b>	<b>1.9000e-004</b>	<b>1.1300e-003</b>	<b>0.0000</b>	<b>14.7332</b>	<b>14.7332</b>	<b>9.0000e-004</b>	<b>0.0000</b>	<b>14.7556</b>

### 3.5 Paving - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8829	5.8829	1.8600e-003	0.0000	5.9295
Paving	9.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.1400e-003</b>	<b>0.0423</b>	<b>0.0444</b>	<b>7.0000e-005</b>		<b>2.3500e-003</b>	<b>2.3500e-003</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>5.8829</b>	<b>5.8829</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>5.9295</b>

#### 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	3.1000e-004	2.3000e-004	2.2600e-003	1.0000e-005	5.1000e-004	0.0000	5.1000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4699	0.4699	2.0000e-005	0.0000	0.4704
<b>Total</b>	<b>3.1000e-004</b>	<b>2.3000e-004</b>	<b>2.2600e-003</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4699</b>	<b>0.4699</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4704</b>

#### 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	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8828	5.8828	1.8600e-003	0.0000	5.9295
Paving	9.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.1400e-003</b>	<b>0.0423</b>	<b>0.0444</b>	<b>7.0000e-005</b>		<b>2.3500e-003</b>	<b>2.3500e-003</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>0.0000</b>	<b>5.8828</b>	<b>5.8828</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>5.9295</b>

### 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	3.1000e-004	2.3000e-004	2.2600e-003	1.0000e-005	5.1000e-004	0.0000	5.1000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4699	0.4699	2.0000e-005	0.0000	0.4704
<b>Total</b>	<b>3.1000e-004</b>	<b>2.3000e-004</b>	<b>2.2600e-003</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>5.1000e-004</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4699</b>	<b>0.4699</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4704</b>

### 3.6 Building Construction - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1411	1.0278	0.9166	1.5300e-003		0.0553	0.0553		0.0534	0.0534	0.0000	126.1718	126.1718	0.0234	0.0000	126.7573
<b>Total</b>	<b>0.1411</b>	<b>1.0278</b>	<b>0.9166</b>	<b>1.5300e-003</b>		<b>0.0553</b>	<b>0.0553</b>		<b>0.0534</b>	<b>0.0534</b>	<b>0.0000</b>	<b>126.1718</b>	<b>126.1718</b>	<b>0.0234</b>	<b>0.0000</b>	<b>126.7573</b>

#### 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	2.4600e-003	0.0751	0.0190	1.7000e-004	4.0600e-003	4.0000e-004	4.4500e-003	1.1700e-003	3.8000e-004	1.5500e-003	0.0000	16.1041	16.1041	9.9000e-004	0.0000	16.1288
Worker	0.0113	8.1900e-003	0.0823	1.9000e-004	0.0185	1.5000e-004	0.0187	4.9400e-003	1.4000e-004	5.0800e-003	0.0000	17.0836	17.0836	6.3000e-004	0.0000	17.0993
<b>Total</b>	<b>0.0137</b>	<b>0.0833</b>	<b>0.1013</b>	<b>3.6000e-004</b>	<b>0.0226</b>	<b>5.5000e-004</b>	<b>0.0232</b>	<b>6.1100e-003</b>	<b>5.2000e-004</b>	<b>6.6300e-003</b>	<b>0.0000</b>	<b>33.1877</b>	<b>33.1877</b>	<b>1.6200e-003</b>	<b>0.0000</b>	<b>33.2280</b>

**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	0.1411	1.0278	0.9166	1.5300e-003		0.0553	0.0553		0.0534	0.0534	0.0000	126.1716	126.1716	0.0234	0.0000	126.7572
<b>Total</b>	<b>0.1411</b>	<b>1.0278</b>	<b>0.9166</b>	<b>1.5300e-003</b>		<b>0.0553</b>	<b>0.0553</b>		<b>0.0534</b>	<b>0.0534</b>	<b>0.0000</b>	<b>126.1716</b>	<b>126.1716</b>	<b>0.0234</b>	<b>0.0000</b>	<b>126.7572</b>

**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	2.4600e-003	0.0751	0.0190	1.7000e-004	4.0600e-003	4.0000e-004	4.4500e-003	1.1700e-003	3.8000e-004	1.5500e-003	0.0000	16.1041	16.1041	9.9000e-004	0.0000	16.1288
Worker	0.0113	8.1900e-003	0.0823	1.9000e-004	0.0185	1.5000e-004	0.0187	4.9400e-003	1.4000e-004	5.0800e-003	0.0000	17.0836	17.0836	6.3000e-004	0.0000	17.0993
<b>Total</b>	<b>0.0137</b>	<b>0.0833</b>	<b>0.1013</b>	<b>3.6000e-004</b>	<b>0.0226</b>	<b>5.5000e-004</b>	<b>0.0232</b>	<b>6.1100e-003</b>	<b>5.2000e-004</b>	<b>6.6300e-003</b>	<b>0.0000</b>	<b>33.1877</b>	<b>33.1877</b>	<b>1.6200e-003</b>	<b>0.0000</b>	<b>33.2280</b>

**3.6 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	0.0453	0.3409	0.3225	5.5000e-004		0.0171	0.0171		0.0165	0.0165	0.0000	45.3869	45.3869	8.1000e-003	0.0000	45.5895
<b>Total</b>	<b>0.0453</b>	<b>0.3409</b>	<b>0.3225</b>	<b>5.5000e-004</b>		<b>0.0171</b>	<b>0.0171</b>		<b>0.0165</b>	<b>0.0165</b>	<b>0.0000</b>	<b>45.3869</b>	<b>45.3869</b>	<b>8.1000e-003</b>	<b>0.0000</b>	<b>45.5895</b>

**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	7.2000e-004	0.0245	6.0000e-003	6.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	5.7407	5.7407	3.4000e-004	0.0000	5.7492
Worker	3.7600e-003	2.6300e-003	0.0268	7.0000e-005	6.6700e-003	5.0000e-005	6.7200e-003	1.7800e-003	5.0000e-005	1.8200e-003	0.0000	5.9326	5.9326	2.0000e-004	0.0000	5.9376
<b>Total</b>	<b>4.4800e-003</b>	<b>0.0271</b>	<b>0.0328</b>	<b>1.3000e-004</b>	<b>8.1300e-003</b>	<b>1.1000e-004</b>	<b>8.2400e-003</b>	<b>2.2000e-003</b>	<b>1.1000e-004</b>	<b>2.3000e-003</b>	<b>0.0000</b>	<b>11.6733</b>	<b>11.6733</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>11.6868</b>

**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	0.0453	0.3409	0.3225	5.5000e-004		0.0171	0.0171		0.0165	0.0165	0.0000	45.3869	45.3869	8.1000e-003	0.0000	45.5894
<b>Total</b>	<b>0.0453</b>	<b>0.3409</b>	<b>0.3225</b>	<b>5.5000e-004</b>		<b>0.0171</b>	<b>0.0171</b>		<b>0.0165</b>	<b>0.0165</b>	<b>0.0000</b>	<b>45.3869</b>	<b>45.3869</b>	<b>8.1000e-003</b>	<b>0.0000</b>	<b>45.5894</b>

**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	7.2000e-004	0.0245	6.0000e-003	6.0000e-005	1.4600e-003	6.0000e-005	1.5200e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	5.7407	5.7407	3.4000e-004	0.0000	5.7492
Worker	3.7600e-003	2.6300e-003	0.0268	7.0000e-005	6.6700e-003	5.0000e-005	6.7200e-003	1.7800e-003	5.0000e-005	1.8200e-003	0.0000	5.9326	5.9326	2.0000e-004	0.0000	5.9376
<b>Total</b>	<b>4.4800e-003</b>	<b>0.0271</b>	<b>0.0328</b>	<b>1.3000e-004</b>	<b>8.1300e-003</b>	<b>1.1000e-004</b>	<b>8.2400e-003</b>	<b>2.2000e-003</b>	<b>1.1000e-004</b>	<b>2.3000e-003</b>	<b>0.0000</b>	<b>11.6733</b>	<b>11.6733</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>11.6868</b>



### 3.7 Architectural Coating - 2021

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
<b>Total</b>	<b>0.3849</b>	<b>7.6300e-003</b>	<b>9.0900e-003</b>	<b>1.0000e-005</b>		<b>4.7000e-004</b>	<b>4.7000e-004</b>		<b>4.7000e-004</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.2788</b>

#### 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	1.1000e-004	1.1000e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2443	0.2443	1.0000e-005	0.0000	0.2445
<b>Total</b>	<b>1.5000e-004</b>	<b>1.1000e-004</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2443</b>	<b>0.2443</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2445</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
<b>Total</b>	<b>0.3849</b>	<b>7.6300e-003</b>	<b>9.0900e-003</b>	<b>1.0000e-005</b>		<b>4.7000e-004</b>	<b>4.7000e-004</b>		<b>4.7000e-004</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.2788</b>

### 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	1.1000e-004	1.1000e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.2443	0.2443	1.0000e-005	0.0000	0.2445
<b>Total</b>	<b>1.5000e-004</b>	<b>1.1000e-004</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2443</b>	<b>0.2443</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2445</b>

### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6714	2.7764	5.4165	0.0120	0.8636	0.0135	0.8772	0.2324	0.0127	0.2451	0.0000	1,106.3968	1,106.3968	0.0665	0.0000	1,108.0581
Unmitigated	0.6714	2.7764	5.4165	0.0120	0.8636	0.0135	0.8772	0.2324	0.0127	0.2451	0.0000	1,106.3968	1,106.3968	0.0665	0.0000	1,108.0581

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	187.76	208.79	161.08	536,311	536,311
Convenience Market (24 Hour)	2,164.88	3,079.04	2559.32	1,791,092	1,791,092
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>2,352.63</b>	<b>3,287.83</b>	<b>2,720.40</b>	<b>2,327,403</b>	<b>2,327,403</b>

#### 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 Low Rise	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0



**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	254527	45.1011	3.3500e-003	6.9000e-004	45.3912
Convenience Market (24 Hour)	30359.6	5.3796	4.0000e-004	8.0000e-005	5.4142
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11200	1.9846	1.5000e-004	3.0000e-005	1.9974
<b>Total</b>		<b>52.4652</b>	<b>3.9000e-003</b>	<b>8.0000e-004</b>	<b>52.8027</b>

## Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-45814.8	-8.1182	-0.0006	-0.0001	-8.1704
Convenience Market (24 Hour)	-5464.73	-0.9683	-0.0001	0.0000	-0.9746
Other Non-Asphalt Surfaces	-0	0.0000	0.0000	0.0000	0.0000
Parking Lot	-2016	-0.3572	0.0000	0.0000	-0.3595
<b>Total</b>		<b>-9.4438</b>	<b>-0.0007</b>	<b>-0.0001</b>	<b>-9.5045</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1437	0.0124	0.2060	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.5000e-004	2.1000e-004	12.1031
Unmitigated	0.1437	0.0124	0.2060	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.5000e-004	2.1000e-004	12.1031

### 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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.1600e-003	2.3300e-003	0.2017	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3370
<b>Total</b>	<b>0.1437</b>	<b>0.0124</b>	<b>0.2060</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1031</b>

## 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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.1600e-003	2.3300e-003	0.2017	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3370
<b>Total</b>	<b>0.1437</b>	<b>0.0124</b>	<b>0.2060</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1031</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.6248	0.0515	1.2400e-003	4.2833
Unmitigated	3.2810	0.0644	1.5600e-003	5.3541

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.75916 / 1.10903	2.9326	0.0575	1.3900e-003	4.7843
Convenience Market (24 Hour)	0.210366 / 0.128934	0.3484	6.8800e-003	1.7000e-004	0.5698
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>3.2810</b>	<b>0.0644</b>	<b>1.5600e-003</b>	<b>5.3541</b>

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.40733 / 0.887228	2.3461	0.0460	1.1100e-003	3.8274
Convenience Market (24 Hour)	0.168293 / 0.103147	0.2787	5.5000e-003	1.3000e-004	0.4559
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>2.6248</b>	<b>0.0515</b>	<b>1.2400e-003</b>	<b>4.2833</b>

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1470	0.1860	0.0000	7.7965
Unmitigated	4.2527	0.2513	0.0000	10.5358

## 8.2 Waste by Land Use

### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Convenience Market (24 Hour)	8.53	1.7315	0.1023	0.0000	4.2898
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>4.2527</b>	<b>0.2513</b>	<b>0.0000</b>	<b>10.5358</b>

### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.1908	1.8657	0.1103	0.0000	4.6221
Convenience Market (24 Hour)	6.3122	1.2813	0.0757	0.0000	3.1744
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>3.1470</b>	<b>0.1860</b>	<b>0.0000</b>	<b>7.7965</b>

## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation



Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Summer

**Shiloh Mixed Use Project 2021**  
**Sonoma-North Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.68	1000sqft	0.04	1,680.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0
Apartments Low Rise	27.00	Dwelling Unit	0.92	21,682.00	50
Convenience Market (24 Hour)	2.84	1000sqft	0.07	2,840.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>	2021		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction start date provided in project description.  
 CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Sources and further information related to land use table is contained in project workbook spreadsheet.

Construction Phase - Project description shows construction start date of June 2020 and end date of February 2021.

Trips and VMT - 16 additional demolition haul trips (to and from project site) were added to account for removal of 3 electric poles, 1 propane tank, and 6 trees.

Demolition - Demo debris calculation in appendix.

Grading - Export volume provided by applicant.

Vehicle Trips - Trip rates consistent with ITE land uses #220 (apartments) and #851 (market) used in TJKM TIS (Jan. 2020), and 5 percent reduction to apt. trips in TIS to reflect proximity of apartments to proposed market.

Woodstoves - No woodburning

No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices

Energy Use - Electricity adjusted to be consistent with project energy use in Guttman & Blaevoet letter (Nov 21, 2019). Calculations shown in Air Quality workbook.

Construction Off-road Equipment Mitigation - BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Guttman & Blaevoet Consulting Engineers. 2019. Letter to Windsor Planning Division. November 21.

Project would be all-electric, zero net electricity, with on-site solar generating 118% of project energy consumption.

Water Mitigation - Reduction accounts for compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance

Waste Mitigation - Reduction accounts for compliance with the State mandate for recycling—AB 341

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	200.00	189.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	3,172.76	7,726.07
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	365.68	890.48
tblEnergyUse	T24NG	7,043.85	0.00
tblEnergyUse	T24NG	2.37	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberWood	9.45	0.00
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	27,000.00	21,682.00
tblLandUse	LotAcreage	1.69	0.92
tblLandUse	Population	77.00	50.00
tblLandUse	Population	0.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65





### 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	6/1/2020	6/11/2020	6	10	10 days of demolition
2	Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15	15 days of site preparation
3	Grading	Grading	6/30/2020	7/10/2020	6	10	10 days of grading
4	Paving	Paving	7/11/2020	7/22/2020	6	10	10 days of paving
5	Building Construction	Building Construction	7/23/2020	2/27/2021	6	189	189 days of building construction (reduced to match construction)
6	Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10	10 days architectural coating

**Acres of Grading (Site Preparation Phase): 7.5**

**Acres of Grading (Grading Phase): 3.75**

**Acres of Paving: 0.76**

**Residential Indoor: 43,906; Residential Outdoor: 14,635; Non-Residential Indoor: 4,260; Non-Residential Outdoor: 1,420; Striped Parking**

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	32.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	34.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3402	0.0000	0.3402	0.0515	0.0000	0.0515			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
<b>Total</b>	<b>2.1262</b>	<b>20.9463</b>	<b>14.6573</b>	<b>0.0241</b>	<b>0.3402</b>	<b>1.1525</b>	<b>1.4927</b>	<b>0.0515</b>	<b>1.0761</b>	<b>1.1277</b>		<b>2,322.3127</b>	<b>2,322.3127</b>	<b>0.5970</b>		<b>2,337.2363</b>

**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										lb/day					
Hauling	0.0251	0.9283	0.1870	2.5400e-003	0.0552	3.3300e-003	0.0586	0.0151	3.1900e-003	0.0183		273.3012	273.3012	0.0164		273.7102
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	0.0636	0.0402	0.4775	1.1100e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		110.2492	110.2492	3.9700e-003		110.3485
<b>Total</b>	<b>0.0887</b>	<b>0.9685</b>	<b>0.6645</b>	<b>3.6500e-003</b>	<b>0.1620</b>	<b>4.1600e-003</b>	<b>0.1662</b>	<b>0.0434</b>	<b>3.9600e-003</b>	<b>0.0474</b>		<b>383.5504</b>	<b>383.5504</b>	<b>0.0203</b>		<b>384.0587</b>

**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										lb/day					
Fugitive Dust					0.1531	0.0000	0.1531	0.0232	0.0000	0.0232			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
<b>Total</b>	<b>2.1262</b>	<b>20.9463</b>	<b>14.6573</b>	<b>0.0241</b>	<b>0.1531</b>	<b>1.1525</b>	<b>1.3056</b>	<b>0.0232</b>	<b>1.0761</b>	<b>1.0993</b>	<b>0.0000</b>	<b>2,322.3127</b>	<b>2,322.3127</b>	<b>0.5970</b>		<b>2,337.2363</b>

**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										lb/day					
Hauling	0.0251	0.9283	0.1870	2.5400e-003	0.0552	3.3300e-003	0.0586	0.0151	3.1900e-003	0.0183		273.3012	273.3012	0.0164		273.7102
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	0.0636	0.0402	0.4775	1.1100e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		110.2492	110.2492	3.9700e-003		110.3485
<b>Total</b>	<b>0.0887</b>	<b>0.9685</b>	<b>0.6645</b>	<b>3.6500e-003</b>	<b>0.1620</b>	<b>4.1600e-003</b>	<b>0.1662</b>	<b>0.0434</b>	<b>3.9600e-003</b>	<b>0.0474</b>		<b>383.5504</b>	<b>383.5504</b>	<b>0.0203</b>		<b>384.0587</b>

### 3.3 Site Preparation - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>5.7996</b>	<b>0.8210</b>	<b>6.6205</b>	<b>2.9537</b>	<b>0.7553</b>	<b>3.7090</b>		<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>

#### 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										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	0.0391	0.0248	0.2938	6.8000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		67.8457	67.8457	2.4400e-003		67.9068
<b>Total</b>	<b>0.0391</b>	<b>0.0248</b>	<b>0.2938</b>	<b>6.8000e-004</b>	<b>0.0657</b>	<b>5.1000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.7000e-004</b>	<b>0.0179</b>		<b>67.8457</b>	<b>67.8457</b>	<b>2.4400e-003</b>		<b>67.9068</b>

#### 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										lb/day					
Fugitive Dust					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>2.6098</b>	<b>0.8210</b>	<b>3.4308</b>	<b>1.3292</b>	<b>0.7553</b>	<b>2.0844</b>	<b>0.0000</b>	<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>



### 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										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	0.0391	0.0248	0.2938	6.8000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		67.8457	67.8457	2.4400e-003			67.9068
<b>Total</b>	<b>0.0391</b>	<b>0.0248</b>	<b>0.2938</b>	<b>6.8000e-004</b>	<b>0.0657</b>	<b>5.1000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.7000e-004</b>	<b>0.0179</b>		<b>67.8457</b>	<b>67.8457</b>	<b>2.4400e-003</b>			<b>67.9068</b>

### 3.4 Grading - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					4.9482	0.0000	4.9482	2.5308	0.0000	2.5308			0.0000			0.0000	
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417			1,376.7609
<b>Total</b>	<b>1.3498</b>	<b>15.0854</b>	<b>6.4543</b>	<b>0.0141</b>	<b>4.9482</b>	<b>0.6844</b>	<b>5.6326</b>	<b>2.5308</b>	<b>0.6296</b>	<b>3.1604</b>		<b>1,365.7183</b>	<b>1,365.7183</b>	<b>0.4417</b>			<b>1,376.7609</b>

#### 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										lb/day						
Hauling	0.2947	10.8783	2.1914	0.0298	0.6474	0.0390	0.6864	0.1767	0.0374	0.2141		3,202.7482	3,202.7482	0.1917			3,207.5417
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	0.0391	0.0248	0.2938	6.8000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		67.8457	67.8457	2.4400e-003			67.9068
<b>Total</b>	<b>0.3338</b>	<b>10.9031</b>	<b>2.4852</b>	<b>0.0304</b>	<b>0.7131</b>	<b>0.0395</b>	<b>0.7527</b>	<b>0.1942</b>	<b>0.0378</b>	<b>0.2320</b>		<b>3,270.5938</b>	<b>3,270.5938</b>	<b>0.1942</b>			<b>3,275.4484</b>

### 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										lb/day					
Fugitive Dust					2.2267	0.0000	2.2267	1.1388	0.0000	1.1388			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
<b>Total</b>	<b>1.3498</b>	<b>15.0854</b>	<b>6.4543</b>	<b>0.0141</b>	<b>2.2267</b>	<b>0.6844</b>	<b>2.9111</b>	<b>1.1388</b>	<b>0.6296</b>	<b>1.7685</b>	<b>0.0000</b>	<b>1,365.7183</b>	<b>1,365.7183</b>	<b>0.4417</b>		<b>1,376.7609</b>

### 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										lb/day					
Hauling	0.2947	10.8783	2.1914	0.0298	0.6474	0.0390	0.6864	0.1767	0.0374	0.2141		3,202.7482	3,202.7482	0.1917		3,207.5417
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	0.0391	0.0248	0.2938	6.8000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		67.8457	67.8457	2.4400e-003		67.9068
<b>Total</b>	<b>0.3338</b>	<b>10.9031</b>	<b>2.4852</b>	<b>0.0304</b>	<b>0.7131</b>	<b>0.0395</b>	<b>0.7527</b>	<b>0.1942</b>	<b>0.0378</b>	<b>0.2320</b>		<b>3,270.5938</b>	<b>3,270.5938</b>	<b>0.1942</b>		<b>3,275.4484</b>

## 3.5 Paving - 2020

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.1886					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0288</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>		<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

**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										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	0.0636	0.0402	0.4775	1.1100e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		110.2492	110.2492	3.9700e-003		110.3485
<b>Total</b>	<b>0.0636</b>	<b>0.0402</b>	<b>0.4775</b>	<b>1.1100e-003</b>	<b>0.1068</b>	<b>8.3000e-004</b>	<b>0.1076</b>	<b>0.0283</b>	<b>7.7000e-004</b>	<b>0.0291</b>		<b>110.2492</b>	<b>110.2492</b>	<b>3.9700e-003</b>		<b>110.3485</b>

**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										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.1886					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0288</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>	<b>0.0000</b>	<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

**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										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	0.0636	0.0402	0.4775	1.1100e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		110.2492	110.2492	3.9700e-003		110.3485
<b>Total</b>	<b>0.0636</b>	<b>0.0402</b>	<b>0.4775</b>	<b>1.1100e-003</b>	<b>0.1068</b>	<b>8.3000e-004</b>	<b>0.1076</b>	<b>0.0283</b>	<b>7.7000e-004</b>	<b>0.0291</b>		<b>110.2492</b>	<b>110.2492</b>	<b>3.9700e-003</b>		<b>110.3485</b>

### 3.6 Building Construction - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

#### 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										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	0.0347	1.0684	0.2564	2.4200e-003	0.0606	5.6900e-003	0.0663	0.0174	5.4500e-003	0.0229		257.7395	257.7395	0.0151		258.1174
Worker	0.1662	0.1052	1.2488	2.9000e-003	0.2793	2.1700e-003	0.2815	0.0741	2.0000e-003	0.0761		288.3441	288.3441	0.0104		288.6037
<b>Total</b>	<b>0.2009</b>	<b>1.1737</b>	<b>1.5052</b>	<b>5.3200e-003</b>	<b>0.3399</b>	<b>7.8600e-003</b>	<b>0.3478</b>	<b>0.0915</b>	<b>7.4500e-003</b>	<b>0.0990</b>		<b>546.0836</b>	<b>546.0836</b>	<b>0.0255</b>		<b>546.7211</b>

#### 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										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

### 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										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	0.0347	1.0684	0.2564	2.4200e-003	0.0606	5.6900e-003	0.0663	0.0174	5.4500e-003	0.0229		257.7395	257.7395	0.0151			258.1174
Worker	0.1662	0.1052	1.2488	2.9000e-003	0.2793	2.1700e-003	0.2815	0.0741	2.0000e-003	0.0761		288.3441	288.3441	0.0104			288.6037
<b>Total</b>	<b>0.2009</b>	<b>1.1737</b>	<b>1.5052</b>	<b>5.3200e-003</b>	<b>0.3399</b>	<b>7.8600e-003</b>	<b>0.3478</b>	<b>0.0915</b>	<b>7.4500e-003</b>	<b>0.0990</b>		<b>546.0836</b>	<b>546.0836</b>	<b>0.0255</b>			<b>546.7211</b>

### 3.6 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	lb/day										lb/day						
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573			2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>		<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>			<b>2,010.1517</b>

#### 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										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	0.0279	0.9709	0.2250	2.4000e-003	0.0606	2.4100e-003	0.0630	0.0174	2.3100e-003	0.0197		255.4373	255.4373	0.0145			255.8005
Worker	0.1542	0.0938	1.1321	2.8000e-003	0.2793	2.0900e-003	0.2814	0.0741	1.9200e-003	0.0760		278.3814	278.3814	9.2500e-003			278.6128
<b>Total</b>	<b>0.1821</b>	<b>1.0647</b>	<b>1.3571</b>	<b>5.2000e-003</b>	<b>0.3399</b>	<b>4.5000e-003</b>	<b>0.3444</b>	<b>0.0915</b>	<b>4.2300e-003</b>	<b>0.0957</b>		<b>533.8187</b>	<b>533.8187</b>	<b>0.0238</b>			<b>534.4133</b>

**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										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>	<b>0.0000</b>	<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

**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										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	0.0279	0.9709	0.2250	2.4000e-003	0.0606	2.4100e-003	0.0630	0.0174	2.3100e-003	0.0197		255.4373	255.4373	0.0145		255.8005
Worker	0.1542	0.0938	1.1321	2.8000e-003	0.2793	2.0900e-003	0.2814	0.0741	1.9200e-003	0.0760		278.3814	278.3814	9.2500e-003		278.6128
<b>Total</b>	<b>0.1821</b>	<b>1.0647</b>	<b>1.3571</b>	<b>5.2000e-003</b>	<b>0.3399</b>	<b>4.5000e-003</b>	<b>0.3444</b>	<b>0.0915</b>	<b>4.2300e-003</b>	<b>0.0957</b>		<b>533.8187</b>	<b>533.8187</b>	<b>0.0238</b>		<b>534.4133</b>

**3.7 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	76.7579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>76.9768</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

**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										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	0.0318	0.0193	0.2331	5.8000e-004	0.0575	4.3000e-004	0.0579	0.0153	4.0000e-004	0.0157		57.3138	57.3138	1.9100e-003		57.3615
<b>Total</b>	<b>0.0318</b>	<b>0.0193</b>	<b>0.2331</b>	<b>5.8000e-004</b>	<b>0.0575</b>	<b>4.3000e-004</b>	<b>0.0579</b>	<b>0.0153</b>	<b>4.0000e-004</b>	<b>0.0157</b>		<b>57.3138</b>	<b>57.3138</b>	<b>1.9100e-003</b>		<b>57.3615</b>

**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										lb/day					
Archit. Coating	76.7579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>76.9768</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

**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										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	0.0318	0.0193	0.2331	5.8000e-004	0.0575	4.3000e-004	0.0579	0.0153	4.0000e-004	0.0157		57.3138	57.3138	1.9100e-003		57.3615
<b>Total</b>	<b>0.0318</b>	<b>0.0193</b>	<b>0.2331</b>	<b>5.8000e-004</b>	<b>0.0575</b>	<b>4.3000e-004</b>	<b>0.0579</b>	<b>0.0153</b>	<b>4.0000e-004</b>	<b>0.0157</b>		<b>57.3138</b>	<b>57.3138</b>	<b>1.9100e-003</b>		<b>57.3615</b>

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.4619	19.2219	36.2203	0.0879	6.2769	0.0937	6.3705	1.6828	0.0878	1.7706		8,901.1416	8,901.1416	0.4999		8,913.6378
Unmitigated	5.4619	19.2219	36.2203	0.0879	6.2769	0.0937	6.3705	1.6828	0.0878	1.7706		8,901.1416	8,901.1416	0.4999		8,913.6378

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	187.76	208.79	161.08	536,311	536,311
Convenience Market (24 Hour)	2,164.88	3,079.04	2559.32	1,791,092	1,791,092
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>2,352.63</b>	<b>3,287.83</b>	<b>2,720.40</b>	<b>2,327,403</b>	<b>2,327,403</b>

### 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 Low Rise	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Convenience Market (24 Hour)	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Other Non-Asphalt Surfaces	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Parking Lot	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

## 5.0 Energy Detail

Historical Energy Use: N



## 5.1 Mitigation Measures Energy

### Percent of Electricity Use Generated with Renewable 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	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

## 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	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### 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	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8443	0.2722	2.3459	1.6900e-003		0.0323	0.0323		0.0323	0.0323	0.0000	318.5000	318.5000	9.9600e-003	5.7700e-003	320.4671
Unmitigated	0.8443	0.2722	2.3459	1.6900e-003		0.0323	0.0323		0.0323	0.0323	0.0000	318.5000	318.5000	9.9600e-003	5.7700e-003	320.4671

### 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	lb/day										lb/day					
Architectural Coating	0.2103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0288	0.2463	0.1048	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	314.4706	314.4706	6.0300e-003	5.7700e-003	316.3393
Landscaping	0.0685	0.0259	2.2410	1.2000e-004		0.0123	0.0123		0.0123	0.0123		4.0294	4.0294	3.9400e-003		4.1278
<b>Total</b>	<b>0.8443</b>	<b>0.2722</b>	<b>2.3459</b>	<b>1.6900e-003</b>		<b>0.0323</b>	<b>0.0323</b>		<b>0.0323</b>	<b>0.0323</b>	<b>0.0000</b>	<b>318.5000</b>	<b>318.5000</b>	<b>9.9700e-003</b>	<b>5.7700e-003</b>	<b>320.4671</b>

#### 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	lb/day										lb/day					
Architectural Coating	0.2103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0288	0.2463	0.1048	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	314.4706	314.4706	6.0300e-003	5.7700e-003	316.3393
Landscaping	0.0685	0.0259	2.2410	1.2000e-004		0.0123	0.0123		0.0123	0.0123		4.0294	4.0294	3.9400e-003		4.1278
<b>Total</b>	<b>0.8443</b>	<b>0.2722</b>	<b>2.3459</b>	<b>1.6900e-003</b>		<b>0.0323</b>	<b>0.0323</b>		<b>0.0323</b>	<b>0.0323</b>	<b>0.0000</b>	<b>318.5000</b>	<b>318.5000</b>	<b>9.9700e-003</b>	<b>5.7700e-003</b>	<b>320.4671</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation

Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Winter

**Shiloh Mixed Use Project 2021**  
**Sonoma-North Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.68	1000sqft	0.04	1,680.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0
Apartments Low Rise	27.00	Dwelling Unit	0.92	21,682.00	50
Convenience Market (24 Hour)	2.84	1000sqft	0.07	2,840.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Construction start date provided in project description.

CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Sources and further information related to land use table is contained in project workbook spreadsheet.

Construction Phase - Project description shows construction start date of June 2020 and end date of February 2021.

Trips and VMT - 16 additional demolition haul trips (to and from project site) were added to account for removal of 3 electric poles, 1 propane tank, and 6 trees.

Demolition - Demo debris calculation in appendix.

Grading - Export volume provided by applicant.

Vehicle Trips - Trip rates consistent with ITE land uses #220 (apartments) and #851 (market) used in TJKM TIS (Jan. 2020), and 5 percent reduction to apt. trips in TIS to reflect proximity of apartments to proposed market.

Woodstoves - No woodburning

No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning

Energy Use - Electricity adjusted to be consistent with project energy use in Guttman & Blaevoet letter (Nov 21, 2019). Calculations shown in Air Quality workbook.

Construction Off-road Equipment Mitigation - BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Guttman & Blaevoet Consulting Engineers. 2019. Letter to Windsor Planning Division. November 21.

Project would be all-electric, zero net electricity, with on-site solar generating 118% of project energy consumption.

Water Mitigation - Reduction accounts for compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance

Waste Mitigation - Reduction accounts for compliance with the State mandate for recycling—AB 341

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	200.00	189.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	3,172.76	7,726.07
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	365.68	890.48
tblEnergyUse	T24NG	7,043.85	0.00
tblEnergyUse	T24NG	2.37	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberWood	9.45	0.00
tblGrading	MaterialExported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	27,000.00	21,682.00
tblLandUse	LotAcreage	1.69	0.92
tblLandUse	Population	77.00	50.00
tblLandUse	Population	0.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65
tblTripsAndVMT	HaulingTripNumber	16.00	32.00





### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/11/2020	6	10	10 days of demolition
2	Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15	15 days of site preparation
3	Grading	Grading	6/30/2020	7/10/2020	6	10	10 days of grading
4	Paving	Paving	7/11/2020	7/22/2020	6	10	10 days of paving
5	Building Construction	Building Construction	7/23/2020	2/27/2021	6	189	189 days of building construction (reduced to match construction)
6	Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10	10 days architectural coating

**Acres of Grading (Site Preparation Phase): 7.5**

**Acres of Grading (Grading Phase): 3.75**

**Acres of Paving: 0.76**

**Residential Indoor: 43,906; Residential Outdoor: 14,635; Non-Residential Indoor: 4,260; Non-Residential Outdoor: 1,420; Striped Parking**



## OffRoad Equipment

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

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle	Hauling Vehicle
Demolition	5	13.00	0.00	32.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	34.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3402	0.0000	0.3402	0.0515	0.0000	0.0515			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
<b>Total</b>	<b>2.1262</b>	<b>20.9463</b>	<b>14.6573</b>	<b>0.0241</b>	<b>0.3402</b>	<b>1.1525</b>	<b>1.4927</b>	<b>0.0515</b>	<b>1.0761</b>	<b>1.1277</b>		<b>2,322.3127</b>	<b>2,322.3127</b>	<b>0.5970</b>		<b>2,337.2363</b>

#### 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										lb/day					
Hauling	0.0258	0.9512	0.2004	2.5100e-003	0.0552	3.4100e-003	0.0587	0.0151	3.2600e-003	0.0183		269.5639	269.5639	0.0171		269.9920
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	0.0685	0.0499	0.4666	1.0300e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		102.4564	102.4564	3.8200e-003		102.5519
<b>Total</b>	<b>0.0944</b>	<b>1.0010</b>	<b>0.6670</b>	<b>3.5400e-003</b>	<b>0.1620</b>	<b>4.2400e-003</b>	<b>0.1663</b>	<b>0.0434</b>	<b>4.0300e-003</b>	<b>0.0474</b>		<b>372.0203</b>	<b>372.0203</b>	<b>0.0209</b>		<b>372.5439</b>

#### 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										lb/day					
Fugitive Dust					0.1531	0.0000	0.1531	0.0232	0.0000	0.0232			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
<b>Total</b>	<b>2.1262</b>	<b>20.9463</b>	<b>14.6573</b>	<b>0.0241</b>	<b>0.1531</b>	<b>1.1525</b>	<b>1.3056</b>	<b>0.0232</b>	<b>1.0761</b>	<b>1.0993</b>	<b>0.0000</b>	<b>2,322.3127</b>	<b>2,322.3127</b>	<b>0.5970</b>		<b>2,337.2363</b>

### 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										lb/day					
Hauling	0.0258	0.9512	0.2004	2.5100e-003	0.0552	3.4100e-003	0.0587	0.0151	3.2600e-003	0.0183		269.5639	269.5639	0.0171		269.9920
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	0.0685	0.0499	0.4666	1.0300e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		102.4564	102.4564	3.8200e-003		102.5519
<b>Total</b>	<b>0.0944</b>	<b>1.0010</b>	<b>0.6670</b>	<b>3.5400e-003</b>	<b>0.1620</b>	<b>4.2400e-003</b>	<b>0.1663</b>	<b>0.0434</b>	<b>4.0300e-003</b>	<b>0.0474</b>		<b>372.0203</b>	<b>372.0203</b>	<b>0.0209</b>		<b>372.5439</b>

### 3.3 Site Preparation - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>5.7996</b>	<b>0.8210</b>	<b>6.6205</b>	<b>2.9537</b>	<b>0.7553</b>	<b>3.7090</b>		<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>

#### 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										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	0.0422	0.0307	0.2871	6.3000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		63.0501	63.0501	2.3500e-003		63.1089
<b>Total</b>	<b>0.0422</b>	<b>0.0307</b>	<b>0.2871</b>	<b>6.3000e-004</b>	<b>0.0657</b>	<b>5.1000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.7000e-004</b>	<b>0.0179</b>		<b>63.0501</b>	<b>63.0501</b>	<b>2.3500e-003</b>		<b>63.1089</b>

### 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										lb/day					
Fugitive Dust					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>2.6098</b>	<b>0.8210</b>	<b>3.4308</b>	<b>1.3292</b>	<b>0.7553</b>	<b>2.0844</b>	<b>0.0000</b>	<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>

### 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										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	0.0422	0.0307	0.2871	6.3000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		63.0501	63.0501	2.3500e-003		63.1089
<b>Total</b>	<b>0.0422</b>	<b>0.0307</b>	<b>0.2871</b>	<b>6.3000e-004</b>	<b>0.0657</b>	<b>5.1000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.7000e-004</b>	<b>0.0179</b>		<b>63.0501</b>	<b>63.0501</b>	<b>2.3500e-003</b>		<b>63.1089</b>

### 3.4 Grading - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9482	0.0000	4.9482	2.5308	0.0000	2.5308			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
<b>Total</b>	<b>1.3498</b>	<b>15.0854</b>	<b>6.4543</b>	<b>0.0141</b>	<b>4.9482</b>	<b>0.6844</b>	<b>5.6326</b>	<b>2.5308</b>	<b>0.6296</b>	<b>3.1604</b>		<b>1,365.7183</b>	<b>1,365.7183</b>	<b>0.4417</b>		<b>1,376.7609</b>

**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										lb/day					
Hauling	0.3027	11.1466	2.3484	0.0294	0.6474	0.0400	0.6873	0.1767	0.0382	0.2149		3,158.9524	3,158.9524	0.2006		3,163.9682
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	0.0307	0.2871	6.3000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		63.0501	63.0501	2.3500e-003		63.1089
<b>Total</b>	<b>0.3449</b>	<b>11.1773</b>	<b>2.6355</b>	<b>0.0300</b>	<b>0.7131</b>	<b>0.0405</b>	<b>0.7536</b>	<b>0.1942</b>	<b>0.0387</b>	<b>0.2328</b>		<b>3,222.0024</b>	<b>3,222.0024</b>	<b>0.2030</b>		<b>3,227.0771</b>

**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										lb/day					
Fugitive Dust					2.2267	0.0000	2.2267	1.1388	0.0000	1.1388			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
<b>Total</b>	<b>1.3498</b>	<b>15.0854</b>	<b>6.4543</b>	<b>0.0141</b>	<b>2.2267</b>	<b>0.6844</b>	<b>2.9111</b>	<b>1.1388</b>	<b>0.6296</b>	<b>1.7685</b>	<b>0.0000</b>	<b>1,365.7183</b>	<b>1,365.7183</b>	<b>0.4417</b>		<b>1,376.7609</b>

**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										lb/day					
Hauling	0.3027	11.1466	2.3484	0.0294	0.6474	0.0400	0.6873	0.1767	0.0382	0.2149		3,158.9524	3,158.9524	0.2006		3,163.9682
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	0.0307	0.2871	6.3000e-004	0.0657	5.1000e-004	0.0662	0.0174	4.7000e-004	0.0179		63.0501	63.0501	2.3500e-003		63.1089
<b>Total</b>	<b>0.3449</b>	<b>11.1773</b>	<b>2.6355</b>	<b>0.0300</b>	<b>0.7131</b>	<b>0.0405</b>	<b>0.7536</b>	<b>0.1942</b>	<b>0.0387</b>	<b>0.2328</b>		<b>3,222.0024</b>	<b>3,222.0024</b>	<b>0.2030</b>		<b>3,227.0771</b>

### 3.5 Paving - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.1886					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0288</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>		<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

#### 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										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	0.0685	0.0499	0.4666	1.0300e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		102.4564	102.4564	3.8200e-003		102.5519
<b>Total</b>	<b>0.0685</b>	<b>0.0499</b>	<b>0.4666</b>	<b>1.0300e-003</b>	<b>0.1068</b>	<b>8.3000e-004</b>	<b>0.1076</b>	<b>0.0283</b>	<b>7.7000e-004</b>	<b>0.0291</b>		<b>102.4564</b>	<b>102.4564</b>	<b>3.8200e-003</b>		<b>102.5519</b>

#### 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										lb/day					
Off-Road	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.1886					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.0288</b>	<b>8.4514</b>	<b>8.8758</b>	<b>0.0135</b>		<b>0.4695</b>	<b>0.4695</b>		<b>0.4328</b>	<b>0.4328</b>	<b>0.0000</b>	<b>1,296.9461</b>	<b>1,296.9461</b>	<b>0.4111</b>		<b>1,307.2246</b>

**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										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	0.0685	0.0499	0.4666	1.0300e-003	0.1068	8.3000e-004	0.1076	0.0283	7.7000e-004	0.0291		102.4564	102.4564	3.8200e-003		102.5519
<b>Total</b>	<b>0.0685</b>	<b>0.0499</b>	<b>0.4666</b>	<b>1.0300e-003</b>	<b>0.1068</b>	<b>8.3000e-004</b>	<b>0.1076</b>	<b>0.0283</b>	<b>7.7000e-004</b>	<b>0.0291</b>		<b>102.4564</b>	<b>102.4564</b>	<b>3.8200e-003</b>		<b>102.5519</b>

**3.6 Building Construction - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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										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	0.0365	1.0811	0.2920	2.3700e-003	0.0606	5.8300e-003	0.0664	0.0174	5.5700e-003	0.0230		252.2220	252.2220	0.0163		252.6299
Worker	0.1792	0.1304	1.2203	2.6900e-003	0.2793	2.1700e-003	0.2815	0.0741	2.0000e-003	0.0761		267.9628	267.9628	0.0100		268.2127
<b>Total</b>	<b>0.2158</b>	<b>1.2114</b>	<b>1.5123</b>	<b>5.0600e-003</b>	<b>0.3399</b>	<b>8.0000e-003</b>	<b>0.3479</b>	<b>0.0915</b>	<b>7.5700e-003</b>	<b>0.0991</b>		<b>520.1847</b>	<b>520.1847</b>	<b>0.0263</b>		<b>520.8426</b>

### 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										lb/day					
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

### 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										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	0.0365	1.0811	0.2920	2.3700e-003	0.0606	5.8300e-003	0.0664	0.0174	5.5700e-003	0.0230		252.2220	252.2220	0.0163		252.6299
Worker	0.1792	0.1304	1.2203	2.6900e-003	0.2793	2.1700e-003	0.2815	0.0741	2.0000e-003	0.0761		267.9628	267.9628	0.0100		268.2127
<b>Total</b>	<b>0.2158</b>	<b>1.2114</b>	<b>1.5123</b>	<b>5.0600e-003</b>	<b>0.3399</b>	<b>8.0000e-003</b>	<b>0.3479</b>	<b>0.0915</b>	<b>7.5700e-003</b>	<b>0.0991</b>		<b>520.1847</b>	<b>520.1847</b>	<b>0.0263</b>		<b>520.8426</b>

## 3.6 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	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>		<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>



**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										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	0.0296	0.9798	0.2574	2.3500e-003	0.0606	2.5200e-003	0.0631	0.0174	2.4100e-003	0.0198		249.9261	249.9261	0.0157		250.3184
Worker	0.1662	0.1162	1.1028	2.6000e-003	0.2793	2.0900e-003	0.2814	0.0741	1.9200e-003	0.0760		258.6934	258.6934	8.8900e-003		258.9157
<b>Total</b>	<b>0.1958</b>	<b>1.0960</b>	<b>1.3602</b>	<b>4.9500e-003</b>	<b>0.3399</b>	<b>4.6100e-003</b>	<b>0.3445</b>	<b>0.0915</b>	<b>4.3300e-003</b>	<b>0.0958</b>		<b>508.6195</b>	<b>508.6195</b>	<b>0.0246</b>		<b>509.2340</b>

**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										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>	<b>0.0000</b>	<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

**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										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	0.0296	0.9798	0.2574	2.3500e-003	0.0606	2.5200e-003	0.0631	0.0174	2.4100e-003	0.0198		249.9261	249.9261	0.0157		250.3184
Worker	0.1662	0.1162	1.1028	2.6000e-003	0.2793	2.0900e-003	0.2814	0.0741	1.9200e-003	0.0760		258.6934	258.6934	8.8900e-003		258.9157
<b>Total</b>	<b>0.1958</b>	<b>1.0960</b>	<b>1.3602</b>	<b>4.9500e-003</b>	<b>0.3399</b>	<b>4.6100e-003</b>	<b>0.3445</b>	<b>0.0915</b>	<b>4.3300e-003</b>	<b>0.0958</b>		<b>508.6195</b>	<b>508.6195</b>	<b>0.0246</b>		<b>509.2340</b>

### 3.7 Architectural Coating - 2021

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	76.7579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>76.9768</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

#### 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										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	0.0342	0.0239	0.2270	5.4000e-004	0.0575	4.3000e-004	0.0579	0.0153	4.0000e-004	0.0157		53.2604	53.2604	1.8300e-003		53.3062
<b>Total</b>	<b>0.0342</b>	<b>0.0239</b>	<b>0.2270</b>	<b>5.4000e-004</b>	<b>0.0575</b>	<b>4.3000e-004</b>	<b>0.0579</b>	<b>0.0153</b>	<b>4.0000e-004</b>	<b>0.0157</b>		<b>53.2604</b>	<b>53.2604</b>	<b>1.8300e-003</b>		<b>53.3062</b>

#### 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										lb/day					
Archit. Coating	76.7579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>76.9768</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

### 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										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	0.0342	0.0239	0.2270	5.4000e-004	0.0575	4.3000e-004	0.0579	0.0153	4.0000e-004	0.0157		53.2604	53.2604	1.8300e-003		53.3062
<b>Total</b>	<b>0.0342</b>	<b>0.0239</b>	<b>0.2270</b>	<b>5.4000e-004</b>	<b>0.0575</b>	<b>4.3000e-004</b>	<b>0.0579</b>	<b>0.0153</b>	<b>4.0000e-004</b>	<b>0.0157</b>		<b>53.2604</b>	<b>53.2604</b>	<b>1.8300e-003</b>		<b>53.3062</b>

### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.7256	19.8540	41.4700	0.0830	6.2769	0.0959	6.3728	1.6828	0.0900	1.7727		8,393.6329	8,393.6329	0.5411		8,407.1606
Unmitigated	4.7256	19.8540	41.4700	0.0830	6.2769	0.0959	6.3728	1.6828	0.0900	1.7727		8,393.6329	8,393.6329	0.5411		8,407.1606

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT		Annual VMT	
Apartments Low Rise	187.76	208.79	161.08	536,311		536,311	
Convenience Market (24 Hour)	2,164.88	3,079.04	2559.32	1,791,092		1,791,092	
Other Non-Asphalt Surfaces	0.00	0.00	0.00				
Parking Lot	0.00	0.00	0.00				
<b>Total</b>	<b>2,352.63</b>	<b>3,287.83</b>	<b>2,720.40</b>	<b>2,327,403</b>		<b>2,327,403</b>	

#### 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 Low Rise	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Convenience Market (24 Hour)	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Other Non-Asphalt Surfaces	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112
Parking Lot	0.578299	0.039453	0.169996	0.109068	0.028307	0.006716	0.029274	0.026666	0.003071	0.001838	0.005325	0.000874	0.001112

#### 5.0 Energy Detail

Historical Energy Use: N

#### 5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

#### 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	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8443	0.2722	2.3459	1.6900e-003		0.0323	0.0323		0.0323	0.0323	0.0000	318.5000	318.5000	9.9600e-003	5.7700e-003	320.4671
Unmitigated	0.8443	0.2722	2.3459	1.6900e-003		0.0323	0.0323		0.0323	0.0323	0.0000	318.5000	318.5000	9.9600e-003	5.7700e-003	320.4671

### 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	lb/day										lb/day					
Architectural Coating	0.2103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0288	0.2463	0.1048	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	314.4706	314.4706	6.0300e-003	5.7700e-003	316.3393
Landscaping	0.0685	0.0259	2.2410	1.2000e-004		0.0123	0.0123		0.0123	0.0123		4.0294	4.0294	3.9400e-003		4.1278
<b>Total</b>	<b>0.8443</b>	<b>0.2722</b>	<b>2.3459</b>	<b>1.6900e-003</b>		<b>0.0323</b>	<b>0.0323</b>		<b>0.0323</b>	<b>0.0323</b>	<b>0.0000</b>	<b>318.5000</b>	<b>318.5000</b>	<b>9.9700e-003</b>	<b>5.7700e-003</b>	<b>320.4671</b>

**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	lb/day										lb/day					
Architectural Coating	0.2103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5367					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0288	0.2463	0.1048	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	314.4706	314.4706	6.0300e-003	5.7700e-003	316.3393
Landscaping	0.0685	0.0259	2.2410	1.2000e-004		0.0123	0.0123		0.0123	0.0123		4.0294	4.0294	3.9400e-003		4.1278
<b>Total</b>	<b>0.8443</b>	<b>0.2722</b>	<b>2.3459</b>	<b>1.6900e-003</b>		<b>0.0323</b>	<b>0.0323</b>		<b>0.0323</b>	<b>0.0323</b>	<b>0.0000</b>	<b>318.5000</b>	<b>318.5000</b>	<b>9.9700e-003</b>	<b>5.7700e-003</b>	<b>320.4671</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

**9.0 Operational Offroad**

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

**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

Shiloh Mixed Use Project 2030 - Sonoma-North Coast County, Annual

**Shiloh Mixed Use Project 2030**  
**Sonoma-North Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.68	1000sqft	0.04	1,680.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0
Apartments Low Rise	27.00	Dwelling Unit	0.92	21,682.00	50
Convenience Market (24 Hour)	2.84	1000sqft	0.07	2,840.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4			<b>Operational Year</b>	2030
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	292.24	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 intensity factor adjusted based on Renewable Portfolio Standard. 2030 operational year.

Land Use - Sources and further information related to land use table is contained in project workbook spreadsheet.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Demolition - Operational run only.

Vehicle Trips - Trip rates consistent with ITE land uses #220 (apartments) and #851 (market) used in TJKM TIS (Jan. 2020), and 5 percent reduction to apt. trips in TIS to reflect proximity of apartments to proposed market.

Woodstoves - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices

Energy Use - Electricity adjusted to be consistent with project energy use in Guttman & Blaevoet letter (Nov 21, 2019). Calculations shown in Air Quality workbook.

Construction Off-road Equipment Mitigation - BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Guttman & Blaevoet Consulting Engineers. 2019. Letter to Windsor Planning Division. November 21.

Project would be all-electric, zero net electricity, with on-site solar generating 118% of project energy consumption.

Water Mitigation - Reduction accounts for compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance

Waste Mitigation - Reduction accounts for compliance with the State mandate for recycling—AB 341

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	3,172.76	7,726.07
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	365.68	890.48
tblEnergyUse	T24NG	7,043.85	0.00
tblEnergyUse	T24NG	2.37	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberWood	9.45	0.00
tblLandUse	LandUseSquareFeet	27,000.00	21,682.00
tblLandUse	LotAcreage	1.69	0.92
tblLandUse	Population	77.00	50.00
tblLandUse	Population	0.00	3.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	292.24
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblVehicleTrips	ST_TR	7.16	7.73
tblVehicleTrips	ST_TR	863.10	1,084.17
tblVehicleTrips	SU_TR	6.07	5.97
tblVehicleTrips	SU_TR	758.45	901.17
tblVehicleTrips	WD_TR	6.59	6.95
tblVehicleTrips	WD_TR	737.99	762.28
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00



## 2.0 Emissions Summary

### 2.2 Overall Operational

#### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1436	0.0124	0.2050	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	39.2485	39.2485	3.8900e-003	8.1000e-004	39.5860
Mobile	0.3508	2.0612	2.7116	9.4800e-003	0.8623	7.2200e-003	0.8695	0.2318	6.7200e-003	0.2385	0.0000	880.2248	880.2248	0.0410	0.0000	881.2505
Waste						0.0000	0.0000		0.0000	0.0000	4.2527	0.0000	4.2527	0.2513	0.0000	10.5358
Water						0.0000	0.0000		0.0000	0.0000	0.6248	1.9870	2.6119	0.0644	1.5600e-003	4.6850
<b>Total</b>	<b>0.4944</b>	<b>2.0737</b>	<b>2.9166</b>	<b>9.5600e-003</b>	<b>0.8623</b>	<b>9.1500e-003</b>	<b>0.8714</b>	<b>0.2318</b>	<b>8.6500e-003</b>	<b>0.2405</b>	<b>4.8775</b>	<b>933.4859</b>	<b>938.3634</b>	<b>0.3612</b>	<b>2.5800e-003</b>	<b>948.1603</b>

#### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1436	0.0124	0.2050	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-7.0647	-7.0647	-0.0007	-0.0002	-7.1255
Mobile	0.3508	2.0612	2.7116	9.4800e-003	0.8623	7.2200e-003	0.8695	0.2318	6.7200e-003	0.2385	0.0000	880.2248	880.2248	0.0410	0.0000	881.2505
Waste						0.0000	0.0000		0.0000	0.0000	3.1470	0.0000	3.1470	0.1860	0.0000	7.7965
Water						0.0000	0.0000		0.0000	0.0000	0.4999	1.5896	2.0895	0.0515	1.2400e-003	3.7480
<b>Total</b>	<b>0.4944</b>	<b>2.0737</b>	<b>2.9166</b>	<b>9.5600e-003</b>	<b>0.8623</b>	<b>9.1500e-003</b>	<b>0.8714</b>	<b>0.2318</b>	<b>8.6500e-003</b>	<b>0.2405</b>	<b>3.6468</b>	<b>886.7752</b>	<b>890.4221</b>	<b>0.2784</b>	<b>1.3000e-003</b>	<b>897.7724</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>25.23</b>	<b>5.00</b>	<b>5.11</b>	<b>22.93</b>	<b>49.61</b>	<b>5.31</b>

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3508	2.0612	2.7116	9.4800e-003	0.8623	7.2200e-003	0.8695	0.2318	6.7200e-003	0.2385	0.0000	880.2248	880.2248	0.0410	0.0000	881.2505
Unmitigated	0.3508	2.0612	2.7116	9.4800e-003	0.8623	7.2200e-003	0.8695	0.2318	6.7200e-003	0.2385	0.0000	880.2248	880.2248	0.0410	0.0000	881.2505

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	187.65	208.71	161.19	536,100	536,100
Convenience Market (24 Hour)	2,164.88	3,079.04	2559.32	1,791,092	1,791,092
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>2,352.53</b>	<b>3,287.75</b>	<b>2,720.51</b>	<b>2,327,193</b>	<b>2,327,193</b>

### 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 Low Rise	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Convenience Market (24 Hour)	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Other Non-Asphalt Surfaces	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Parking Lot	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662

## 5.0 Energy Detail

Historical Energy Use: N



### Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr										MT/yr						
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	254527	33.7395	3.3500e-003	6.9000e-004	34.0296
Convenience Market (24 Hour)	30359.6	4.0244	4.0000e-004	8.0000e-005	4.0590
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11200	1.4847	1.5000e-004	3.0000e-005	1.4974
<b>Total</b>		<b>39.2485</b>	<b>3.9000e-003</b>	<b>8.0000e-004</b>	<b>39.5860</b>

## Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-45814.8	-6.0731	-0.0006	-0.0001	-6.1253
Convenience Market (24 Hour)	-5464.73	-0.7244	-0.0001	0.0000	-0.7306
Other Non-Asphalt Surfaces	-0	0.0000	0.0000	0.0000	0.0000
Parking Lot	-2016	-0.2672	0.0000	0.0000	-0.2695
<b>Total</b>		<b>-7.0647</b>	<b>-0.0007</b>	<b>-0.0001</b>	<b>-7.1255</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1436	0.0124	0.2050	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Unmitigated	0.1436	0.0124	0.2050	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030

### 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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.0500e-003	2.3100e-003	0.2007	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3369
<b>Total</b>	<b>0.1436</b>	<b>0.0124</b>	<b>0.2050</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1030</b>

## 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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.0500e-003	2.3100e-003	0.2007	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3369
<b>Total</b>	<b>0.1436</b>	<b>0.0124</b>	<b>0.2050</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1030</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.0895	0.0515	1.2400e-003	3.7480
Unmitigated	2.6119	0.0644	1.5600e-003	4.6850

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.75916 / 1.10903	2.3344	0.0575	1.3900e-003	4.1861
Convenience Market (24 Hour)	0.210366 / 0.128934	0.2775	6.8800e-003	1.7000e-004	0.4989
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>2.6119</b>	<b>0.0644</b>	<b>1.5600e-003</b>	<b>4.6850</b>

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.40733 / 0.887228	1.8676	0.0460	1.1100e-003	3.3489
Convenience Market (24 Hour)	0.168293 / 0.103147	0.2220	5.5000e-003	1.3000e-004	0.3991
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>2.0895</b>	<b>0.0515</b>	<b>1.2400e-003</b>	<b>3.7480</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1470	0.1860	0.0000	7.7965
Unmitigated	4.2527	0.2513	0.0000	10.5358

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Convenience Market (24 Hour)	8.53	1.7315	0.1023	0.0000	4.2898
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>4.2527</b>	<b>0.2513</b>	<b>0.0000</b>	<b>10.5358</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.1908	1.8657	0.1103	0.0000	4.6221
Convenience Market (24 Hour)	6.3122	1.2813	0.0757	0.0000	3.1744
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>3.1470</b>	<b>0.1860</b>	<b>0.0000</b>	<b>7.7965</b>



## 9.0 Operational Offroad

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

### Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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## 11.0 Vegetation

Shiloh Mixed Use Project 2040 - Sonoma-North Coast County, Annual

**Shiloh Mixed Use Project 2040**  
**Sonoma-North Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.68	1000sqft	0.04	1,680.00	0
Parking Lot	80.00	Space	0.72	32,000.00	0
Apartments Low Rise	27.00	Dwelling Unit	0.92	21,682.00	50
Convenience Market (24 Hour)	2.84	1000sqft	0.07	2,840.00	3

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4			<b>Operational Year</b>	2040
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	292.24	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 intensity factor adjusted based on Renewable Portfolio Standard. 2040 operational year.

Land Use - Sources and further information related to land use table is contained in project workbook spreadsheet.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Demolition - Operational run only.

Vehicle Trips - Trip rates consistent with ITE land uses #220 (apartments) and #851 (market) used in TJKM TIS (Jan. 2020), and 5 percent reduction to apt. trips in TIS to reflect proximity of apartments to proposed market.

Woodstoves - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices

Energy Use - Electricity adjusted to be consistent with project energy use in Guttman & Blaevoet letter (Nov 21, 2019). Calculations shown in Air Quality workbook.

Project description: project would be all-electric (natural gas zeroed out).

Construction Off-road Equipment Mitigation - BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Guttman & Blaevoet Consulting Engineers. 2019. Letter to Windsor Planning Division. November 21.

Project would be all-electric, zero net electricity, with on-site solar generating 118% of project energy consumption.

Water Mitigation - Reduction accounts for compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance

Waste Mitigation - Reduction accounts for compliance with the State mandate for recycling—AB 341

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	3,172.76	7,726.07
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	365.68	890.48
tblEnergyUse	T24NG	7,043.85	0.00
tblEnergyUse	T24NG	2.37	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberWood	9.45	0.00
tblLandUse	LandUseSquareFeet	27,000.00	21,682.00
tblLandUse	LotAcreage	1.69	0.92
tblLandUse	Population	77.00	50.00
tblLandUse	Population	0.00	3.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	292.24
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblVehicleTrips	ST_TR	7.16	7.73
tblVehicleTrips	ST_TR	863.10	1,084.17
tblVehicleTrips	SU_TR	6.07	5.97
tblVehicleTrips	SU_TR	758.45	901.17
tblVehicleTrips	WD_TR	6.59	6.95
tblVehicleTrips	WD_TR	737.99	762.28
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

## 2.0 Emissions Summary

### 2.2 Overall Operational

#### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1436	0.0124	0.2047	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	39.2485	39.2485	3.8900e-003	8.1000e-004	39.5860
Mobile	0.2083	1.9466	1.8111	8.7200e-003	0.8622	4.0600e-003	0.8663	0.2318	3.7800e-003	0.2356	0.0000	813.9521	813.9521	0.0340	0.0000	814.8010
Waste						0.0000	0.0000		0.0000	0.0000	4.2527	0.0000	4.2527	0.2513	0.0000	10.5358
Water						0.0000	0.0000		0.0000	0.0000	0.6248	1.9870	2.6119	0.0644	1.5600e-003	4.6850
<b>Total</b>	<b>0.3519</b>	<b>1.9590</b>	<b>2.0158</b>	<b>8.8000e-003</b>	<b>0.8622</b>	<b>5.9900e-003</b>	<b>0.8682</b>	<b>0.2318</b>	<b>5.7100e-003</b>	<b>0.2375</b>	<b>4.8775</b>	<b>867.2132</b>	<b>872.0907</b>	<b>0.3541</b>	<b>2.5800e-003</b>	<b>881.7108</b>

#### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1436	0.0124	0.2047	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-7.0647	-7.0647	-0.0007	-0.0002	-7.1255
Mobile	0.2083	1.9466	1.8111	8.7200e-003	0.8622	4.0600e-003	0.8663	0.2318	3.7800e-003	0.2356	0.0000	813.9521	813.9521	0.0340	0.0000	814.8010
Waste						0.0000	0.0000		0.0000	0.0000	3.1470	0.0000	3.1470	0.1860	0.0000	7.7965
Water						0.0000	0.0000		0.0000	0.0000	0.4999	1.5896	2.0895	0.0515	1.2400e-003	3.7480
<b>Total</b>	<b>0.3519</b>	<b>1.9590</b>	<b>2.0158</b>	<b>8.8000e-003</b>	<b>0.8622</b>	<b>5.9900e-003</b>	<b>0.8682</b>	<b>0.2318</b>	<b>5.7100e-003</b>	<b>0.2375</b>	<b>3.6468</b>	<b>820.5025</b>	<b>824.1494</b>	<b>0.2713</b>	<b>1.3000e-003</b>	<b>831.3229</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>25.23</b>	<b>5.39</b>	<b>5.50</b>	<b>23.39</b>	<b>49.61</b>	<b>5.71</b>

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2083	1.9466	1.8111	8.7200e-003	0.8622	4.0600e-003	0.8663	0.2318	3.7800e-003	0.2356	0.0000	813.9521	813.9521	0.0340	0.0000	814.8010
Unmitigated	0.2083	1.9466	1.8111	8.7200e-003	0.8622	4.0600e-003	0.8663	0.2318	3.7800e-003	0.2356	0.0000	813.9521	813.9521	0.0340	0.0000	814.8010

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	187.65	208.71	161.19	536,100	536,100
Convenience Market (24 Hour)	2,164.88	3,079.04	2559.32	1,791,092	1,791,092
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>2,352.53</b>	<b>3,287.75</b>	<b>2,720.51</b>	<b>2,327,193</b>	<b>2,327,193</b>

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	42.90	19.50	37.60	86	11	3
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	24	15	61
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.633644	0.029850	0.160723	0.084957	0.010113	0.004172	0.033873	0.032642	0.003322	0.001200	0.004059	0.000902	0.000543
Convenience Market (24 Hour)	0.633644	0.029850	0.160723	0.084957	0.010113	0.004172	0.033873	0.032642	0.003322	0.001200	0.004059	0.000902	0.000543
Other Non-Asphalt Surfaces	0.633644	0.029850	0.160723	0.084957	0.010113	0.004172	0.033873	0.032642	0.003322	0.001200	0.004059	0.000902	0.000543
Parking Lot	0.633644	0.029850	0.160723	0.084957	0.010113	0.004172	0.033873	0.032642	0.003322	0.001200	0.004059	0.000902	0.000543

## 5.0 Energy Detail

Historical Energy Use: N



### Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	254527	33.7395	3.3500e-003	6.9000e-004	34.0296
Convenience Market (24 Hour)	30359.6	4.0244	4.0000e-004	8.0000e-005	4.0590
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11200	1.4847	1.5000e-004	3.0000e-005	1.4974
<b>Total</b>		<b>39.2485</b>	<b>3.9000e-003</b>	<b>8.0000e-004</b>	<b>39.5860</b>

## Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-45814.8	-6.0731	-0.0006	-0.0001	-6.1253
Convenience Market (24 Hour)	-5464.73	-0.7244	-0.0001	0.0000	-0.7306
Other Non-Asphalt Surfaces	-0	0.0000	0.0000	0.0000	0.0000
Parking Lot	-2016	-0.2672	0.0000	0.0000	-0.2695
<b>Total</b>		<b>-7.0647</b>	<b>-0.0007</b>	<b>-0.0001</b>	<b>-7.1255</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1436	0.0124	0.2047	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030
Unmitigated	0.1436	0.0124	0.2047	8.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	12.0256	12.0256	5.4000e-004	2.1000e-004	12.1030

### 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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.0400e-003	2.3100e-003	0.2004	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3369
<b>Total</b>	<b>0.1436</b>	<b>0.0124</b>	<b>0.2047</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1030</b>



**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	0.0384					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1800e-003	0.0101	4.3000e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6966	11.6966	2.2000e-004	2.1000e-004	11.7661
Landscaping	6.0400e-003	2.3100e-003	0.2004	1.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	0.3290	0.3290	3.2000e-004	0.0000	0.3369
<b>Total</b>	<b>0.1436</b>	<b>0.0124</b>	<b>0.2047</b>	<b>7.0000e-005</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>		<b>1.9300e-003</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>12.0256</b>	<b>12.0256</b>	<b>5.4000e-004</b>	<b>2.1000e-004</b>	<b>12.1030</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.0895	0.0515	1.2400e-003	3.7480
Unmitigated	2.6119	0.0644	1.5600e-003	4.6850

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.75916 / 1.10903	2.3344	0.0575	1.3900e-003	4.1861
Convenience Market (24 Hour)	0.210366 / 0.128934	0.2775	6.8800e-003	1.7000e-004	0.4989
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>2.6119</b>	<b>0.0644</b>	<b>1.5600e-003</b>	<b>4.6850</b>

## Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.40733 / 0.887228	1.8676	0.0460	1.1100e-003	3.3489
Convenience Market (24 Hour)	0.168293 / 0.103147	0.2220	5.5000e-003	1.3000e-004	0.3991
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>2.0895</b>	<b>0.0515</b>	<b>1.2400e-003</b>	<b>3.7480</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1470	0.1860	0.0000	7.7965
Unmitigated	4.2527	0.2513	0.0000	10.5358

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Convenience Market (24 Hour)	8.53	1.7315	0.1023	0.0000	4.2898
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>4.2527</b>	<b>0.2513</b>	<b>0.0000</b>	<b>10.5358</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	9.1908	1.8657	0.1103	0.0000	4.6221
Convenience Market (24 Hour)	6.3122	1.2813	0.0757	0.0000	3.1744
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>3.1470</b>	<b>0.1860</b>	<b>0.0000</b>	<b>7.7965</b>

**9.0 Operational Offroad**

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

**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

Shiloh Mixed Use Project Off-site Improvements - Sonoma-North Coast County, Annual

**Shiloh Mixed Use Project Off-site Improvements**  
**Sonoma-North Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4	<b>Operational Year</b>	2021		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Off-site roadway improvements construction start date concurrent with project on-site paving phase.  
 CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Applicant provided information: 35,000 square feet of asphalt paving on off-site roadways adjacent to the project site.

Construction Phase - Off-site roadway improvements construction start date concurrent with project on-site paving phase.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65

**2.0 Emissions Summary**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	3.1900e-003	0.0182	0.0194	3.0000e-005	3.5000e-004	9.9000e-004	1.3400e-003	9.0000e-005	9.2000e-004	1.0100e-003	0.0000	2.6736	2.6736	7.0000e-004	0.0000	2.6910
<b>Maximum</b>	<b>3.1900e-003</b>	<b>0.0182</b>	<b>0.0194</b>	<b>3.0000e-005</b>	<b>3.5000e-004</b>	<b>9.9000e-004</b>	<b>1.3400e-003</b>	<b>9.0000e-005</b>	<b>9.2000e-004</b>	<b>1.0100e-003</b>	<b>0.0000</b>	<b>2.6736</b>	<b>2.6736</b>	<b>7.0000e-004</b>	<b>0.0000</b>	<b>2.6910</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	3.1900e-003	0.0182	0.0194	3.0000e-005	3.5000e-004	9.9000e-004	1.3400e-003	9.0000e-005	9.2000e-004	1.0100e-003	0.0000	2.6736	2.6736	7.0000e-004	0.0000	2.6910
Maximum	3.1900e-003	0.0182	0.0194	3.0000e-005	3.5000e-004	9.9000e-004	1.3400e-003	9.0000e-005	9.2000e-004	1.0100e-003	0.0000	2.6736	2.6736	7.0000e-004	0.0000	2.6910
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-19-2020	9-30-2020	0.0183	0.0183
		Highest	0.0183	0.0183

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/19/2020	7/24/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.8

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
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	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
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

#### 3.2 Paving - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	1.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.9800e-003</b>	<b>0.0181</b>	<b>0.0178</b>	<b>3.0000e-005</b>		<b>9.9000e-004</b>	<b>9.9000e-004</b>		<b>9.2000e-004</b>	<b>9.2000e-004</b>	<b>0.0000</b>	<b>2.3482</b>	<b>2.3482</b>	<b>6.8000e-004</b>	<b>0.0000</b>	<b>2.3653</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.5700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256
<b>Total</b>	<b>2.1000e-004</b>	<b>1.6000e-004</b>	<b>1.5700e-003</b>	<b>0.0000</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.3253</b>	<b>0.3253</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.3256</b>

**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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	1.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.9800e-003</b>	<b>0.0181</b>	<b>0.0178</b>	<b>3.0000e-005</b>		<b>9.9000e-004</b>	<b>9.9000e-004</b>		<b>9.2000e-004</b>	<b>9.2000e-004</b>	<b>0.0000</b>	<b>2.3482</b>	<b>2.3482</b>	<b>6.8000e-004</b>	<b>0.0000</b>	<b>2.3653</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.5700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256
<b>Total</b>	<b>2.1000e-004</b>	<b>1.6000e-004</b>	<b>1.5700e-003</b>	<b>0.0000</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.3253</b>	<b>0.3253</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.3256</b>

Shiloh Mixed Use Project Off-site Improvements - Sonoma-North Coast County, Summer

**Shiloh Mixed Use Project Off-site Improvements**  
**Sonoma-North Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Off-site roadway improvements construction start date concurrent with project on-site paving phase.  
 CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Applicant provided information: 35,000 square feet of asphalt paving on off-site roadways adjacent to the project site.

Construction Phase - Off-site roadway improvements construction start date concurrent with project on-site paving phase.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**



**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.2788	7.2823	7.7739	0.0128	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,188.0454	1,188.0454	0.3071	0.0000	1,195.7225
Maximum	1.2788	7.2823	7.7739	0.0128	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,188.0454	1,188.0454	0.3071	0.0000	1,195.7225

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.2788	7.2823	7.7739	0.0128	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,188.0454	1,188.0454	0.3071	0.0000	1,195.7225
Maximum	1.2788	7.2823	7.7739	0.0128	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,188.0454	1,188.0454	0.3071	0.0000	1,195.7225

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/19/2020	7/24/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.8

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
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	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
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Paving - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1908</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>		<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

**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										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	0.0880	0.0557	0.6611	1.5300e-003	0.1479	1.1500e-003	0.1490	0.0392	1.0600e-003	0.0403		152.6527	152.6527	5.5000e-003		152.7902
<b>Total</b>	<b>0.0880</b>	<b>0.0557</b>	<b>0.6611</b>	<b>1.5300e-003</b>	<b>0.1479</b>	<b>1.1500e-003</b>	<b>0.1490</b>	<b>0.0392</b>	<b>1.0600e-003</b>	<b>0.0403</b>		<b>152.6527</b>	<b>152.6527</b>	<b>5.5000e-003</b>		<b>152.7902</b>

**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										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1908</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>	<b>0.0000</b>	<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

**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										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	0.0880	0.0557	0.6611	1.5300e-003	0.1479	1.1500e-003	0.1490	0.0392	1.0600e-003	0.0403		152.6527	152.6527	5.5000e-003		152.7902
<b>Total</b>	<b>0.0880</b>	<b>0.0557</b>	<b>0.6611</b>	<b>1.5300e-003</b>	<b>0.1479</b>	<b>1.1500e-003</b>	<b>0.1490</b>	<b>0.0392</b>	<b>1.0600e-003</b>	<b>0.0403</b>		<b>152.6527</b>	<b>152.6527</b>	<b>5.5000e-003</b>		<b>152.7902</b>

Shiloh Mixed Use Project Off-site Improvements - Sonoma-North Coast County, Winter

**Shiloh Mixed Use Project Off-site Improvements**  
**Sonoma-North Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	75
<b>Climate Zone</b>	4			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	390.65	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Off-site roadway improvements construction start date concurrent with project on-site paving phase.

CO2 intensity factor adjusted based on Renewable Portfolio Standard.

Land Use - Applicant provided information: 35,000 square feet of asphalt paving on off-site roadways adjacent to the project site.

Construction Phase - Off-site roadway improvements construction start date concurrent with project on-site paving phase.

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	390.65

**2.0 Emissions Summary**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.2856	7.2956	7.7588	0.0127	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,177.2553	1,177.2553	0.3069	0.0000	1,184.9273
Maximum	1.2856	7.2956	7.7588	0.0127	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,177.2553	1,177.2553	0.3069	0.0000	1,184.9273

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.2856	7.2956	7.7588	0.0127	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,177.2553	1,177.2553	0.3069	0.0000	1,184.9273
Maximum	1.2856	7.2956	7.7588	0.0127	0.1479	0.3962	0.5441	0.0392	0.3679	0.4072	0.0000	1,177.2553	1,177.2553	0.3069	0.0000	1,184.9273

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	7/19/2020	7/24/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.8

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
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	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
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Paving - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1908</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>		<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

**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										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	0.0949	0.0690	0.6461	1.4300e-003	0.1479	1.1500e-003	0.1490	0.0392	1.0600e-003	0.0403		141.8626	141.8626	5.2900e-003		141.9950
<b>Total</b>	<b>0.0949</b>	<b>0.0690</b>	<b>0.6461</b>	<b>1.4300e-003</b>	<b>0.1479</b>	<b>1.1500e-003</b>	<b>0.1490</b>	<b>0.0392</b>	<b>1.0600e-003</b>	<b>0.0403</b>		<b>141.8626</b>	<b>141.8626</b>	<b>5.2900e-003</b>		<b>141.9950</b>

**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										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.1908</b>	<b>7.2266</b>	<b>7.1128</b>	<b>0.0113</b>		<b>0.3950</b>	<b>0.3950</b>		<b>0.3669</b>	<b>0.3669</b>	<b>0.0000</b>	<b>1,035.3926</b>	<b>1,035.3926</b>	<b>0.3016</b>		<b>1,042.9323</b>

**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										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	0.0949	0.0690	0.6461	1.4300e-003	0.1479	1.1500e-003	0.1490	0.0392	1.0600e-003	0.0403		141.8626	141.8626	5.2900e-003		141.9950
<b>Total</b>	<b>0.0949</b>	<b>0.0690</b>	<b>0.6461</b>	<b>1.4300e-003</b>	<b>0.1479</b>	<b>1.1500e-003</b>	<b>0.1490</b>	<b>0.0392</b>	<b>1.0600e-003</b>	<b>0.0403</b>		<b>141.8626</b>	<b>141.8626</b>	<b>5.2900e-003</b>		<b>141.9950</b>

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## **A.3 - Construction HRA**

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# Shiloh Mixed Use

## Project Site

### Estimation of Annual Onsite Construction Emissions (Project Site)

Start of Construction	6/1/2020	1/1/2021	
End of Construction	12/31/2020	2/27/2021	<b>Total</b>
Number of Days	213	57	270
Number of Hours	5,112	1,368	6,480
Number of Construction Days	184	50	234
Number of Construction Hours (8 hours/day)	1,472	400	1,872

**Size of the construction area source (Project Site): 7308 sq-meters**

Year	On-site Construction Activity	Unmitigated Onsite DPM (tons)	Unmitigated Onsite PM2.5 (tons)
2020	Demolition	0.0054	0.0055
2020	Site Prep	0.0057	0.0156
2020	Grading	0.0032	0.0088
2020	Paving	0.0022	0.0022
2020	Building Construction	0.0534	0.0534
2021	Building Construction	0.0165	0.0165
2021	Architectural Coating	0.0005	0.0005

**Total Unmitigated DPM (On-site) 8.672E-02 tons**

Average Emission  
 7.874E+04 grams  
 1.168E-02 grams/sec  
 1.599E-06 grams/m2-sec

**Total Unmitigated PM2.5 (On-site) 1.025E-01 tons**

Average Emission  
 9.304E+04 grams  
 1.381E-02 grams/sec  
 1.889E-06 grams/m2-sec

**Shiloh Mixed Use**

Project Site

**Estimation of Annual Offsite Construction DPM Emissions (No Mitigation)**

Start of Construction	6/1/2020	1/1/2021	
End of Construction	12/31/2020	2/27/2021	<b>Total</b>
Number of Days	213	57	270
Number of Hours	5,112	1,368	6,480
Number of Construction Days	184	50	234
Number of Construction Hours (8 hours/day)	1,472	400	1,872

		Project Site 2020	Project Site 2020	Project Site 2020	Project Site 2020	Project Site 2020	Project Site 2021	Project Site 2021
	<b>Construction Trip Type</b>	Site		Grading	Paving	Building Construction	Building Construction	Architectural Coating
DPM	Haul Truck	0.00002	0.00000	0.00019	0.00000	0.00000	0.00000	0.00000
DPM	Vendor Truck	0.00000	0.00000	0.00000	0.00000	0.00038	0.00006	0.00000
DPM	Worker	0.00000	0.00000	0.00000	0.00000	0.00014	0.00005	0.00000
DPM	Total	0.00002	0.00000	0.00019	0.00000	0.00052	0.00011	0.00000
PM2.5 Total	Haul Truck	0.00009	0.00000	0.00104	0.00000	0.00000	0.00000	0.00000
PM2.5 Total	Vendor Truck	0.00000	0.00000	0.00000	0.00000	0.00155	0.00048	0.00000
PM2.5 Total	Worker	0.00014	0.00013	0.00009	0.00014	0.00508	0.00182	0.00008
PM2.5 Total	Total	0.00023	0.00013	0.00113	0.00014	0.00663	0.00230	0.00008

		Haul Truck (tons)	Vendor Truck (tons)	Worker (tons)	Total (tons)		Haul Truck (tons)	Vendor Truck (tons)	Worker (tons)	Total (tons)
<b>Total DPM</b>		2.100E-04	4.400E-04	1.900E-04	8.400E-04	<b>Total PM2.5 Total</b>	1.130E-03	2.030E-03	7.480E-03	1.064E-02
				Checking Total	8.400E-04				Checking Total	1.064E-02

<b>Average Emissions</b>	Grams	1.907E+02	3.995E+02	1.725E+02		<b>Average Emissions</b>	Grams	1.026E+03	1.843E+03	6.792E+03
	Grams/sec	2.829E-05	5.928E-05	2.560E-05			Grams/sec	1.522E-04	2.735E-04	1.008E-03

	Default Vehicle Travel Distance in CalEEMod	20	7.3	10.8		Default Vehicle Travel Distance in CalEEMod	20	7.3	10.8	

	<b>Vehicle Travel Distances in the Construction HRA (miles)</b>					<b>Vehicle Travel Distances in the Construction HRA (miles)</b>				
Going from Site	ROAD 1(mi)	0.25	0.25	0.25	miles	ROAD 1(mi)	0.25	0.25	0.25	miles
Coming to Site	ROAD 2(mi)	0.23	0.23	0.23	miles	ROAD 2(mi)	0.23	0.23	0.23	miles

	<b>Trip Distribution (percent)</b>					<b>Trip Distribution (percent)</b>				
	ROAD 1(mi)	50%	50%	50%		ROAD 1(mi)	50%	50%	50%	
	ROAD 2(mi)	50%	50%	50%		ROAD 2(mi)	50%	50%	50%	

	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>				<b>Total</b>	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>				<b>Total</b>
	ROAD 1(mi)	1.768E-07	1.015E-06	2.963E-07	1.488E-06	ROAD 1(mi)	9.516E-07	4.683E-06	1.166E-05	1.730E-05
	ROAD 2(mi)	1.627E-07	9.339E-07	2.726E-07	1.369E-06	ROAD 2(mi)	8.754E-07	4.309E-06	1.073E-05	1.592E-05

	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (tons/year)</b>				<b>Total</b>	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (tons/year)</b>				<b>Total</b>
	ROAD 1(mi)	6.563E-07	7.534E-06	2.199E-06	1.039E-05	ROAD 1(mi)	7.063E-06	3.476E-05	0.000E+00	4.182E-05
	ROAD 2(mi)	1.208E-06	6.932E-06	2.023E-06	1.016E-05	ROAD 2(mi)	6.498E-06	3.198E-05	0.000E+00	3.848E-05

			<b>Total</b>	<b>2.055E-05</b>					<b>Total</b>	<b>8.030E-05</b>
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# Shiloh Mixed Use

Project Site

Construction Annual DPM Emissions (PM2.5 Exhaust)

Unmitigated Concentrations

Annual Average Onsite DPM Rate (grams/m2/sec):

1.60E-06

Annual Average Offsite DPM Emission Rate - Road 1 (grams/sec):

1.49E-06

Annual Average Offsite DPM Emission Rate - Road 2 (grams/sec):

1.37E-06

X	Y	Onsite PROJECT SITE			Offsite-Road 1			Offsite-Road 2			Onsite PROJECT SITE			Offsite-Road 1			Offsite-Road 2			Total DPM (ug/m3)
		Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions	Unit Emissions		
		VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	VALUES AVERAGED	
		AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC	AVERAGE CONC
517253.89	4264455.69	13366.2281	1.03865	1.81219	2.14E-02	1.55E-06	2.48E-06	2.1374E-02												
517269.04	4264461.75	13637.60884	1.10115	1.65238	2.18E-02	1.64E-06	2.26E-06	2.1808E-02												
517281.15	4264446.99	15496.43377	1.25114	1.69199	2.48E-02	1.86E-06	2.32E-06	2.4780E-02												
517298.19	4264444.34	16597.14905	1.38556	1.57759	2.65E-02	2.06E-06	2.16E-06	2.6540E-02												
517309.93	4264459.1	15562.37745	1.36584	1.38127	2.49E-02	2.03E-06	1.89E-06	2.4885E-02												
517345.52	4264436.76	18903.61383	1.77801	1.24134	3.02E-02	2.65E-06	1.70E-06	3.0228E-02												
517370.51	4264453.42	16744.62783	1.7524	0.99756	2.68E-02	2.61E-06	1.37E-06	2.6776E-02												
517364.07	4264426.16	20213.14966	2.00979	1.15197	3.23E-02	2.99E-06	1.58E-06	3.2322E-02												
517379.21	4264418.97	20723.21406	2.18771	1.07393	3.31E-02	3.26E-06	1.47E-06	3.3137E-02												
517482.37	4264137.27	26418.33165	15.20322	0.53444	4.22E-02	2.26E-05	7.32E-07	4.2261E-02												
517487.68	4264137.57	24149.56105	15.33224	0.51375	3.86E-02	2.28E-05	7.03E-07	3.8634E-02												
517243.7	4263895.95	5556.74347	0.35149	1.46785	8.88E-03	5.23E-07	2.01E-06	8.8867E-03												
517263.14	4263894.56	6840.977	0.40051	1.43333	1.09E-02	5.96E-07	1.96E-06	1.0940E-02												
517273.57	4263857.61	6261.97702	0.36927	1.17396	1.00E-02	5.50E-07	1.61E-06	1.0014E-02												
517304.16	4263857.61	8219.77354	0.44691	1.1221	1.31E-02	6.65E-07	1.54E-06	1.3144E-02												
517329.44	4263861.6	10287.21476	0.53075	1.07496	1.64E-02	7.90E-07	1.47E-06	1.6450E-02												
517365.36	4263864.26	13068.66595	0.65863	0.96103	2.09E-02	9.80E-07	1.32E-06	2.0897E-02												
517254.94	4263833.66	4706.24826	0.30047	1.05603	7.52E-03	4.47E-07	1.45E-06	7.5263E-03												
517293.52	4263831	6445.84286	0.37396	1.01339	1.03E-02	5.57E-07	1.39E-06	1.0308E-02												
517329.44	4263836.33	8669.05842	0.46946	0.97046	1.39E-02	6.99E-07	1.33E-06	1.3862E-02												
517368.02	4263837.66	10897.78812	0.57924	0.87227	1.74E-02	8.62E-07	1.19E-06	1.7426E-02												
517266.92	4263807.06	4614.98125	0.29299	0.92908	7.38E-03	4.36E-07	1.27E-06	7.3802E-03												
517309.48	4263804.4	6253.18088	0.36647	0.88418	1.00E-02	5.45E-07	1.21E-06	9.9994E-03												
517341.41	4263807.06	7767.17051	0.43759	0.84349	1.24E-02	6.51E-07	1.15E-06	1.2420E-02												
517373.34	4263813.71	9459.95597	0.52671	0.79182	1.51E-02	7.84E-07	1.08E-06	1.5127E-02												
517217	4264134.98	11171.14996	0.8544	18.37804	1.79E-02	1.27E-06	2.52E-05	1.7887E-02												
517226.77	4264135.42	14463.29353	1.01409	18.28588	2.31E-02	1.51E-06	2.50E-05	2.3151E-02												
517172.6	4264134.72	4834.77601	0.46991	19.35926	7.73E-03	6.99E-07	2.65E-05	7.7571E-03												
517187.88	4264135.42	6222.05436	0.56433	19.31901	9.95E-03	8.40E-07	2.65E-05	9.9752E-03												

# Shiloh Mixed Use

Project Site

Construction Annual Total PM2.5 Emissions (PM2.5 Total)

Unmitigated Concentrations

Annual Average Onsite Total PM2.5 Emission Rate (grams/m2/sec): 1.89E-06  
 Annual Average Offsite Total PM2.5 Emission Rate - Road 1 (grams/sec): 1.73E-05  
 Annual Average Offsite Total PM2.5 Emission Rate - Road 2 (grams/sec): 1.59E-05

X	Y	Onsite PROJECT SITE	Offsite-Road 1	Offsite-Road 2	Onsite PROJECT SITE	Offsite-Road 1	Offsite-Road 2	Total DPM (ug/m3)
		Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	
517253.89	4264455.69	13366.2281	1.03865	1.81219	2.53E-02	1.80E-05	2.88E-05	2.5298E-02
517269.04	4264461.75	13637.60884	1.10115	1.65238	2.58E-02	1.90E-05	2.63E-05	2.5809E-02
517281.15	4264446.99	15496.43377	1.25114	1.69199	2.93E-02	2.16E-05	2.69E-05	2.9324E-02
517298.19	4264444.34	16597.14905	1.38556	1.57759	3.14E-02	2.40E-05	2.51E-05	3.1404E-02
517309.93	4264459.1	15562.37745	1.36584	1.38127	2.94E-02	2.36E-05	2.20E-05	2.9446E-02
517345.52	4264436.76	18903.61383	1.77801	1.24134	3.57E-02	3.08E-05	1.98E-05	3.5763E-02
517370.51	4264453.42	16744.62783	1.7524	0.99756	3.16E-02	3.03E-05	1.59E-05	3.1680E-02
517364.07	4264426.16	20213.14966	2.00979	1.15197	3.82E-02	3.48E-05	1.83E-05	3.8240E-02
517379.21	4264418.97	20723.21406	2.18771	1.07393	3.92E-02	3.78E-05	1.71E-05	3.9205E-02
517482.37	4264137.27	26418.33165	15.20322	0.53444	4.99E-02	2.63E-04	8.51E-06	5.0181E-02
517487.68	4264137.57	24149.56105	15.33224	0.51375	4.56E-02	2.65E-04	8.18E-06	4.5897E-02
517243.7	4263895.95	5556.74347	0.35149	1.46785	1.05E-02	6.08E-06	2.34E-05	1.0527E-02
517263.14	4263894.56	6840.977	0.40051	1.43333	1.29E-02	6.93E-06	2.28E-05	1.2954E-02
517273.57	4263857.61	6261.97702	0.36927	1.17396	1.18E-02	6.39E-06	1.87E-05	1.1855E-02
517304.16	4263857.61	8219.77354	0.44691	1.1221	1.55E-02	7.73E-06	1.79E-05	1.5554E-02
517329.44	4263861.6	10287.21476	0.53075	1.07496	1.94E-02	9.18E-06	1.71E-05	1.9461E-02
517365.36	4263864.26	13068.66595	0.65863	0.96103	2.47E-02	1.14E-05	1.53E-05	2.4716E-02
517254.94	4263833.66	4706.24826	0.30047	1.05603	8.89E-03	5.20E-06	1.68E-05	8.9130E-03
517293.52	4263831	6445.84286	0.37396	1.01339	1.22E-02	6.47E-06	1.61E-05	1.2200E-02
517329.44	4263836.33	8669.05842	0.46946	0.97046	1.64E-02	8.12E-06	1.54E-05	1.6401E-02
517368.02	4263837.66	10897.78812	0.57924	0.87227	2.06E-02	1.00E-05	1.39E-05	2.0612E-02
517266.92	4263807.06	4614.98125	0.29299	0.92908	8.72E-03	5.07E-06	1.48E-05	8.7384E-03
517309.48	4263804.4	6253.18088	0.36547	0.88418	1.18E-02	6.34E-06	1.41E-05	1.1834E-02
517341.41	4263807.06	7767.17051	0.43759	0.84349	1.47E-02	7.57E-06	1.34E-05	1.4695E-02
517373.34	4263813.71	9459.95597	0.52671	0.79182	1.79E-02	9.11E-06	1.26E-05	1.7893E-02
517217	4264134.98	11171.14996	0.8544	18.37804	2.11E-02	1.48E-05	2.92E-04	2.1412E-02
517226.77	4264135.42	14463.29353	1.01409	18.28588	2.73E-02	1.75E-05	2.91E-04	2.7632E-02
517172.6	4264134.72	4834.77601	0.46991	19.35926	9.13E-03	8.13E-06	3.08E-04	9.4501E-03
517187.88	4264135.42	6222.05436	0.56433	19.31901	1.18E-02	9.76E-06	3.07E-04	1.2072E-02

# Shiloh Mixed Use

## Road Improvements

### Estimation of Annual Onsite Construction Emissions (Road Improvements)

Start of Construction	7/19/2020	
End of Construction	7/24/2020	<b>Total</b>
Number of Days	5	5
Number of Hours	120	120
Number of Construction Days	5	5
Number of Construction Hours (8 hours/day)	40	40

**Size of the construction area source (Road Improvements):** 2581 sq-meters

Year	On-site Construction Activity	Unmitigated Onsite DPM (tons)	Unmitigated Onsite PM2.5 (tons)
2020	paving	0.0009	0.0009

**Total Unmitigated DPM (Road Improvements Site)** 9.200E-04 tons

Average Emission  
 8.354E+02 grams  
 5.801E-03 grams/sec  
 2.248E-06 grams/m2-sec

**Total Unmitigated PM2.5 (Road Improvements Site)** 9.200E-04 tons

Average Emission  
 8.354E+02 grams  
 5.801E-03 grams/sec  
 2.248E-06 grams/m2-sec

**Shiloh Mixed Use**  
Roadway Improvements

**Estimation of Annual Offsite Construction DPM Emissions (No Mitigation)**

Start of Construction	7/19/2020	
End of Construction	7/24/2020	<b>Total</b>
Number of Days	5	5
Number of Hours	120	120
Number of Construction Days	5	5
Number of Construction Hours (8 hours/day)	40	40

Roadway Improvements  
2020

	Construction Trip Type	Paving
DPM	Haul Truck	0.00000
DPM	Vendor Truck	0.00000
DPM	Worker	0.00000
DPM	Total	0.00000
PM2.5 Total	Haul Truck	0.00000
PM2.5 Total	Vendor Truck	0.00000
PM2.5 Total	Worker	0.00010
PM2.5 Total	Total	0.00010

		Haul Truck (tons)	Vendor Truck (tons)	Worker (tons)	Total (tons)		Haul Truck (tons)	Vendor Truck (tons)	Worker (tons)	Total (tons)	
<b>Total DPM</b>		0.000E+00	0.000E+00	0.00E+00	0.000E+00	<b>Total PM2.5 Total</b>	0.000E+00	0.000E+00	1.000E-04	1.000E-04	
				Checking Total	0.000E+00				Checking Total	1.000E-04	
<b>Average Emissions</b>	Grams	0.000E+00	0.000E+00	0.000E+00		<b>Average Emissions</b>	Grams	0.000E+00	0.000E+00	9.080E+01	
	Grams/sec	0.000E+00	0.000E+00	0.000E+00			Grams/sec	0.000E+00	0.000E+00	6.306E-04	
	Default Vehicle Travel Distance in CalEEMod	20	7.3	10.8			Default Vehicle Travel Distance in CalEEMod	20	7.3	10.8	
	<b>Vehicle Travel Distances in the Construction HRA (miles)</b>						<b>Vehicle Travel Distances in the Construction HRA (miles)</b>				
Going from Site	ROAD1	0.25	0.25	0.25	miles		ROAD1	0.25	0.25	0.25	miles
Coming to Site	ROAD2	0.23	0.23	0.23	miles		ROAD2	0.23	0.23	0.23	miles
Going away from off-site	ROAD3	0.27	0.27	0.27	miles		ROAD3	0.27	0.27	0.27	miles
Coming to off-site	ROAD4	0.25	0.25	0.25	miles		ROAD4	0.25	0.25	0.25	miles
	<b>Trip Distribution (percent)</b>						<b>Trip Distribution (percent)</b>				
	Road Segment 1	25%	25%	25%			Road Segment 1	25%	25%	25%	
	Road Segment 6	25%	25%	25%			Road Segment 6	25%	25%	25%	
	Road Segment 7	25%	25%	25%			Road Segment 7	25%	25%	25%	
	Road Segment 8	25%	25%	25%			Road Segment 8	25%	25%	25%	
	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>				<b>Total</b>		<b>Total Average Offsite Vehicle Emissions Along Travel Distance (g/sec)</b>			<b>Total</b>	
	Road Segment 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 1	0.000E+00	0.000E+00	3.691E-06	
	Road Segment 6	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 6	0.000E+00	0.000E+00	3.301E-06	
	Road Segment 7	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 7	0.000E+00	0.000E+00	3.918E-06	
	Road Segment 8	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 8	0.000E+00	0.000E+00	3.700E-06	
	<b>Total Average Offsite Vehicle Emissions Along Travel Distance (tons/year)</b>				<b>Total</b>		<b>Total Average Offsite Vehicle Emissions Along Travel Distance (tons/year)</b>			<b>Total</b>	
	Road Segment 1	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 1	0.000E+00	0.000E+00	9.175E-12	
	Road Segment 6	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 6	0.000E+00	0.000E+00	7.750E-12	
	Road Segment 7	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 7	0.000E+00	0.000E+00	0.000E+00	
	Road Segment 8	0.000E+00	0.000E+00	0.000E+00	0.000E+00		Road Segment 8	0.000E+00	0.000E+00	0.000E+00	
				<b>Total</b>	<b>0.000E+00</b>				<b>Total</b>	<b>1.692E-11</b>	



# Shiloh Mixed Use

## Road Improvements

### Construction Annual DPM Emissions (PM2.5 Exhaust)

Annual Average Onsite DPM Rate (grams/m2/sec):	2.25E-06
Annual Average Offsite DPM Emission Rate - Road 1 (grams/sec):	0.00E+00
Annual Average Offsite DPM Emission Rate - Road 2 (grams/sec):	0.00E+00
Annual Average Offsite DPM Emission Rate - Road 3 (grams/sec):	0.00E+00
Annual Average Offsite DPM Emission Rate - Road 4 (grams/sec):	0.00E+00

### Unmitigated Concentrations

X	Y	Onsite Road	Offsite-Road 1	Offsite-Road 2	Offsite-Road 3	Offsite-Road 4	Onsite Road	Offsite-Road 1	Offsite-Road 2	Offsite-Road 3	Offsite-Road 4	Total DPM (ug/m3)
		Improvements Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Improvements Annual DPM Exhaust w/Actual Emissions (ug/m3)	Annual DPM Exhaust w/Actual Emissions (ug/m3)	Annual DPM Exhaust w/Actual Emissions (ug/m3)	Annual DPM Exhaust w/Actual Emissions (ug/m3)	Annual DPM Exhaust w/Actual Emissions (ug/m3)	
517253.89	4264455.69	3305.80606	1.03865	1.81219	0.72493	0.21748	7.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.4302E-03
517269.04	4264461.75	3196.26461	1.10115	1.65238	0.74325	0.21813	7.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.1840E-03
517281.15	4264446.99	3424.19062	1.25114	1.69199	0.81801	0.22823	7.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.6963E-03
517298.19	4264444.34	3447.52744	1.38556	1.57759	0.87107	0.23372	7.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.7487E-03
517309.93	4264459.1	3180.81992	1.36584	1.38127	0.84382	0.22872	7.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.1493E-03
517345.52	4264436.76	3482.31793	1.77801	1.24134	1.03079	0.24994	7.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.8269E-03
517370.51	4264453.42	3107.67948	1.7524	0.99756	1.00946	0.24674	6.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.9849E-03
517364.07	4264426.16	3623.43778	2.00979	1.15197	1.14454	0.26167	8.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.1441E-03
517379.21	4264418.97	3700.16447	2.18771	1.07993	1.23779	0.27093	8.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.3166E-03
517482.37	4264137.27	7734.62724	15.20322	0.53444	6.32689	0.73653	1.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.7385E-02
517487.68	4264137.57	7110.97098	15.33224	0.51375	5.74465	0.73414	1.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.5983E-02
517243.7	4263895.95	2747.25628	0.35149	1.46785	1.02567	0.8861	6.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.1748E-03
517263.14	4263894.56	3018.46655	0.40051	1.43333	1.33602	1.04934	6.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.7844E-03
517273.57	4263857.61	2687.70101	0.36927	1.17396	1.3574	1.2232	6.04E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.0409E-03
517304.16	4263857.61	3576.24087	0.44691	1.1221	2.24687	1.68951	8.04E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.0380E-03
517329.44	4263861.6	5360.66651	0.53075	1.07496	3.82691	2.1745	1.20E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.2049E-02
517365.36	4263884.26	12694.8287	0.65863	0.96103	10.18511	2.98107	2.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.8533E-02
517254.94	4263833.66	2144.51862	0.30047	1.05621	0.94114	1.01396	4.82E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.8201E-03
517293.52	4263831	2734.73713	0.37396	1.01339	1.64007	1.56828	6.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.1467E-03
517329.44	4263836.33	4600.83984	0.46946	0.97046	3.38548	2.43481	1.03E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0341E-02
517368.02	4263837.66	12166.67697	0.57924	0.87227	10.07146	3.85753	2.73E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.7346E-02
517266.92	4263807.06	2013.25366	0.37929	0.92908	0.96663	1.13566	4.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.5250E-03
517309.48	4263804.4	2740.7394	0.36647	0.88418	1.86521	1.96251	6.16E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.1601E-03
517341.41	4263807.06	4648.58766	0.43759	0.84349	3.74941	3.22608	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.0448E-02
517373.34	4263813.71	12497.8247	0.52671	0.79182	10.78475	5.23354	2.81E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.8090E-02
517217	4264134.98	10139.59971	0.8544	18.37804	1.10266	0.4495	2.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.2790E-02
517226.77	4264135.42	10060.24282	1.01409	18.28588	1.21897	0.46272	2.36E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.3512E-02
517172.6	4264134.72	10431.8908	0.46991	19.35926	0.72336	0.3866	2.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.3451E-02
517187.88	4264135.42	10228.01798	0.56433	19.31901	0.83172	0.4077	2.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.2899E-02

# Shiloh Mixed Use

## Road Improvements

Construction Annual Total PM2.5 Emissions (PM2.5 Total)

Unmitigated Concentrations

Annual Average Onsite Total PM2.5 Emission Rate (grams/m2/sec):	2.25E-06
Annual Average Offsite Total PM2.5 Emission Rate - Road 1 (grams/sec):	3.69E-06
Annual Average Offsite Total PM2.5 Emission Rate - Road 2 (grams/sec):	3.30E-06
Annual Average Offsite Total PM2.5 Emission Rate - Road 3 (grams/sec):	3.92E-06
Annual Average Offsite Total PM2.5 Emission Rate - Road 4 (grams/sec):	3.70E-06

X	Y	Onsite Road Improvements		Offsite-Road 1	Offsite-Road 2	Offsite-Road 3	Offsite-Road 4	Onsite Road Improvements	Offsite-Road 1	Offsite-Road 2	Offsite-Road 3	Offsite-Road 4	Total BPM (ug/m3)
		Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Unit Emissions VALUES AVERAGED AVERAGE CONC	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	Annual PM2.5 Total w/Actual Emissions (ug/m3)	
517253.89	4264455.69	3905.80606	1.08865	1.81219	0.72493	0.21748	7.43E-03	3.83E-06	5.98E-06	2.84E-06	5.98E-06	7.4437E-03	
517269.04	4264461.75	3196.26461	1.10115	1.65238	0.74325	0.21813	7.18E-03	4.06E-06	5.46E-06	2.91E-06	5.46E-06	8.07E-07	
517281.15	4264446.99	3424.19062	1.25114	1.69199	0.81801	0.22823	7.70E-03	4.62E-06	5.59E-06	3.21E-06	5.59E-06	7.7105E-03	
517286.19	4264444.34	3447.52744	1.38556	1.57759	0.87107	0.23372	7.75E-03	5.11E-06	5.21E-06	3.41E-06	5.21E-06	8.65E-07	
517309.03	4264459.1	3180.81992	1.36584	1.36127	0.84382	0.22872	7.15E-03	5.04E-06	4.56E-06	3.31E-06	4.56E-06	8.46E-07	
517345.52	4264436.76	3482.31793	1.77801	1.24134	1.03079	0.24994	7.83E-03	6.56E-06	4.10E-06	4.04E-06	4.10E-06	9.25E-07	
517370.51	4264453.42	3107.67948	1.7524	0.99756	1.00946	0.24674	6.98E-03	6.47E-06	3.29E-06	3.96E-06	3.29E-06	6.9995E-03	
517384.07	4264426.16	3623.43778	2.00979	1.15197	1.14454	0.26167	8.14E-03	7.42E-06	3.80E-06	4.48E-06	3.80E-06	8.1608E-03	
517379.22	4264418.97	3700.1647	2.18771	1.07393	1.23779	0.27093	8.32E-03	8.08E-06	3.55E-06	4.85E-06	3.55E-06	1.00E-06	
517482.37	4264137.27	7734.62724	15.20322	0.53444	6.32689	0.73653	1.74E-02	5.61E-05	1.76E-06	2.48E-05	1.76E-06	1.7470E-02	
517487.68	4264137.57	7110.97098	15.33224	0.51375	5.74465	0.73414	1.60E-02	5.66E-05	1.70E-06	2.25E-05	1.70E-06	1.6066E-02	
517243.7	4263895.95	2747.25628	0.35149	1.46785	1.02567	0.8861	6.17E-03	1.30E-06	4.85E-06	4.02E-06	1.30E-06	6.1882E-03	
517263.14	4263894.56	3018.46655	0.40051	1.43333	1.33602	1.04934	6.78E-03	1.48E-06	4.73E-06	5.23E-06	1.48E-06	6.7997E-03	
517273.57	4263857.61	2687.70101	0.36927	1.17396	1.3574	1.22332	6.04E-03	1.36E-06	3.88E-06	5.32E-06	1.36E-06	6.0560E-03	
517304.16	4263857.61	3576.24087	0.44691	1.1221	2.24687	1.68951	8.04E-03	1.65E-06	3.70E-06	8.80E-06	1.65E-06	8.0584E-03	
517329.44	4263861.6	5360.66651	0.53075	1.07496	3.82691	2.1745	1.20E-02	1.96E-06	3.55E-06	1.50E-05	1.96E-06	1.2077E-02	
517365.36	4263864.26	1269.8287	0.65863	0.96103	1.018511	2.98107	2.85E-02	2.43E-06	3.17E-06	3.99E-05	2.43E-06	2.8590E-02	
517354.94	4263833.66	2144.51862	0.30047	1.05603	0.94114	1.01396	4.82E-03	1.11E-06	3.49E-06	3.69E-06	1.11E-06	3.75E-06	
517329.52	4263831	2734.73713	0.37396	1.01339	1.64007	1.56828	6.15E-03	1.38E-06	3.35E-06	6.43E-06	1.38E-06	6.1636E-03	
517329.44	4263836.33	4600.83984	0.46946	0.97046	3.38548	2.43481	1.03E-02	1.73E-06	3.20E-06	1.33E-05	1.73E-06	9.01E-06	
517368.02	4263837.66	12166.67697	0.57924	0.87227	10.07146	3.85753	2.73E-02	2.14E-06	2.88E-06	3.95E-05	2.14E-06	2.7405E-02	
517266.92	4263807.06	2013.25266	0.29299	0.92908	0.98663	1.13566	4.53E-03	1.08E-06	3.07E-06	3.87E-06	1.08E-06	4.5372E-03	
517309.48	4263804.4	2740.7394	0.36647	0.88418	1.86521	1.96251	6.16E-03	1.35E-06	2.92E-06	7.31E-06	1.35E-06	6.1790E-03	
517341.41	4263807.06	4648.58766	0.43759	0.84349	3.74941	3.22608	1.04E-02	1.62E-06	2.78E-06	1.47E-05	1.62E-06	1.0479E-02	
517373.14	4263813.71	12497.8247	0.52671	0.79182	10.78475	5.23354	2.81E-02	1.94E-06	2.61E-06	4.23E-05	1.94E-06	2.8157E-02	
517217	4264134.98	10139.59571	0.8544	18.37804	1.10266	0.4495	2.28E-02	3.15E-06	6.07E-05	4.32E-06	3.15E-06	2.2860E-02	
51726.77	4264133.42	10060.24282	1.01409	18.28388	1.18197	0.46272	2.16E-02	3.74E-06	6.04E-05	4.78E-06	3.74E-06	2.2882E-02	
517172.6	4264134.72	10438.8908	0.46991	19.35926	0.73336	0.3866	2.35E-02	1.73E-06	6.39E-05	2.83E-06	1.73E-06	2.3521E-02	
517187.88	4264135.42	10228.01798	0.56433	19.31901	0.83172	0.4077	2.30E-02	2.08E-06	6.38E-05	3.26E-06	2.08E-06	2.3059E-02	

## OEHHA Cancer/BAAQMD Risk Methodology

$$\text{Cancer Risk} = \text{DPM} \times \text{CPF} \times \text{ASF} \times \text{DBR} \times \text{ED} \times \text{EF} \times \text{TAH} \times \text{AF} / \text{AT}$$

Cancer Risk = probability of an individual contracting cancer out of a population of 1 million people over a lifetime exposure duration of 30 years

DPM = long-term average concentration of diesel PM as predicted by the air dispersion model (ug/m<sup>3</sup>)

CPF = cancer potency factor for DPM (mg.ke-day)

ASF = age sensitivity factors that are dependent on the age of the exposed individual (unitless)

DBR = daily breathing rates that are dependent on the age of the exposed individual (liters/kg-day)

ED = exposure duration (years)

EF = exposure frequency (days/year)

TAH = time at home factors that are dependent on the age of the exposed individual (%)

AT = averaging time over the lifetime of an individual (days)

AF = adjustment factor for workers and students (unitless)

Cancer Risk Equation Values as recommended by the California Office of Environmental Health Hazards Assessment

# Shiloh Mixed Use

## All Construction Sources – Project Site and Road Improvements

### Construction Annual DPM Emissions (PM2.5 Exhaust)

		Unmitigated DPM Concentrations		
		Maximum DPM (ug/m3)	X	MIR UTM Y
		5.9646E-02	517482.37	4264137.27
X	Y	Total Project Site	Total Road Improvements	Total Construction
517482.37	4264137.27	4.23E-02	1.74E-02	5.96E-02
517487.68	4264137.57	3.86E-02	1.60E-02	5.46E-02
517365.36	4263864.26	2.09E-02	2.85E-02	4.94E-02
517226.77	4264135.42	2.32E-02	2.26E-02	4.58E-02
517368.02	4263837.66	1.74E-02	2.73E-02	4.48E-02
517373.34	4263813.71	1.51E-02	2.81E-02	4.32E-02
517379.21	4264418.97	3.31E-02	8.32E-03	4.15E-02
517217	4264134.98	1.79E-02	2.28E-02	4.07E-02
517364.07	4264426.16	3.23E-02	8.14E-03	4.05E-02
517345.52	4264436.76	3.02E-02	7.83E-03	3.81E-02
517298.19	4264444.34	2.65E-02	7.75E-03	3.43E-02
517370.51	4264453.42	2.68E-02	6.98E-03	3.38E-02
517187.88	4264135.42	9.98E-03	2.30E-02	3.30E-02
517281.15	4264446.99	2.48E-02	7.70E-03	3.25E-02
517309.93	4264459.1	2.49E-02	7.15E-03	3.20E-02
517172.6	4264134.72	7.76E-03	2.35E-02	3.12E-02
517269.04	4264461.75	2.18E-02	7.18E-03	2.90E-02
517253.89	4264455.69	2.14E-02	7.43E-03	2.88E-02
517329.44	4263861.6	1.64E-02	1.20E-02	2.85E-02
517329.44	4263836.33	1.39E-02	1.03E-02	2.42E-02
517341.41	4263807.06	1.24E-02	1.04E-02	2.29E-02
517304.16	4263857.61	1.31E-02	8.04E-03	2.12E-02
517263.14	4263894.56	1.09E-02	6.78E-03	1.77E-02
517293.52	4263831	1.03E-02	6.15E-03	1.65E-02
517309.48	4263804.4	1.00E-02	6.16E-03	1.62E-02
517273.57	4263857.61	1.00E-02	6.04E-03	1.61E-02
517243.7	4263895.95	8.89E-03	6.17E-03	1.51E-02
517254.94	4263833.66	7.53E-03	4.82E-03	1.23E-02
517266.92	4263807.06	7.38E-03	4.53E-03	1.19E-02

# Shiloh Mixed Use

## All Construction Sources – Project Site and Road Improvements

### Construction Annual Total PM2.5 Emissions (PM2.5 Total)

#### Unmitigated PM2.5 Total Concentrations

Maximum PM2.5 Total (ug/m3)	MIR UTM X	Y
6.7651E-02	517482.37	4264137.27

X	Y	Total Project Site	Total Road Improvements	Total Construction
517482.37	4264137.27	5.02E-02	1.75E-02	6.77E-02
517487.68	4264137.57	4.59E-02	1.61E-02	6.20E-02
517365.36	4263864.26	2.47E-02	2.86E-02	5.33E-02
517226.77	4264135.42	2.76E-02	2.27E-02	5.03E-02
517368.02	4263837.66	2.06E-02	2.74E-02	4.80E-02
517379.21	4264418.97	3.92E-02	8.33E-03	4.75E-02
517364.07	4264426.16	3.82E-02	8.16E-03	4.64E-02
517373.34	4263813.71	1.79E-02	2.82E-02	4.60E-02
517217	4264134.98	2.14E-02	2.29E-02	4.43E-02
517345.52	4264436.76	3.58E-02	7.84E-03	4.36E-02
517298.19	4264444.34	3.14E-02	7.76E-03	3.92E-02
517370.51	4264453.42	3.17E-02	7.00E-03	3.87E-02
517281.15	4264446.99	2.93E-02	7.71E-03	3.70E-02
517309.93	4264459.1	2.94E-02	7.16E-03	3.66E-02
517187.88	4264135.42	1.21E-02	2.31E-02	3.51E-02
517269.04	4264461.75	2.58E-02	7.20E-03	3.30E-02
517172.6	4264134.72	9.45E-03	2.35E-02	3.30E-02
517253.89	4264455.69	2.53E-02	7.44E-03	3.27E-02
517329.44	4263861.6	1.95E-02	1.21E-02	3.15E-02
517329.44	4263836.33	1.64E-02	1.04E-02	2.68E-02
517341.41	4263807.06	1.47E-02	1.05E-02	2.52E-02
517304.16	4263857.61	1.56E-02	8.06E-03	2.36E-02
517263.14	4263894.56	1.30E-02	6.80E-03	1.98E-02
517293.52	4263831	1.22E-02	6.16E-03	1.84E-02
517309.48	4263804.4	1.18E-02	6.18E-03	1.80E-02
517273.57	4263857.61	1.19E-02	6.06E-03	1.79E-02
517243.7	4263895.95	1.05E-02	6.19E-03	1.67E-02
517254.94	4263833.66	8.91E-03	4.83E-03	1.37E-02
517266.92	4263807.06	8.74E-03	4.54E-03	1.33E-02

**Cancer Risk Calculations Using OEHHA/BAAQMD Cancer Risk Assumptions**

**Shiloh Mixed Use**

**Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Infant**

UTM: 517482.37 4264137.27

Cancer Potency Factor: 1.1 (mg/kg-day)<sup>-1</sup>  
 Exposure Frequency 350 days/year  
 Averaging Period 25550 days

**Construction Annual DPM Emissions (as PM2.5 Exhaust) Unmitigated**

Age	Maximum DPM Concentration (ug/m3)	Age Sensitivity Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Cancer Risk (/million)
3rd Trimester	0.059645899	10	361	0.85	0.25	0.7
0-1	0.059645899	10	1090	0.85	0.49	4.1
1-<2	0.059645899	10	1090	0.85	0.00	0.0
Total						4.79

**Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Child**

UTM: 517482.37 4264137.27

Cancer Potency Factor: 1.1 (mg/kg-day)<sup>-1</sup>  
 Exposure Frequency 350 days/year  
 Averaging Period 25550 days

**Construction Annual DPM Emissions (as PM2.5 Exhaust) Unmitigated**

Construction Year	Maximum DPM Concentration (ug/m3)	Age Sensitivity Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor (ug/m3) <sup>-1</sup>
1	0.059645899	3	572	1	0.74	1.1
2	0.059645899	3	572	1	0.00	0.0
3	0.059645899	3	572	1	0.00	0.0
Total						1.15

**Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Adult**

UTM: 517482.37 4264137.27

Cancer Potency Factor: 1.1 (mg/kg-day)<sup>-1</sup>  
 Exposure Frequency 350 days/year  
 Averaging Period 25550 days

**Construction Annual DPM Emissions (as PM2.5 Exhaust) Unmitigated**

Construction Year	Maximum DPM Concentration (ug/m3)	Age Sensitivity Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor (ug/m3) <sup>-1</sup>
1	0.059645899	1	261	0.73	0.74	0.1
2	0.059645899	1	261	0.73	0.00	0.0
3	0.059645899	1	261	0.73	0.00	0.0
Total						0.13

## Shiloh Mixed Use

UTM: 517482.37 4264137.27

### Estimates of Chronic Non-Cancer Hazard Index (CNCHI)

#### Unmitigated

#### Chronic Non-Cancer Hazard Index at the Maximum Impacted Sensitive Receptor

Reference Exposure Level (REL) for DPM: 5 ug/m3

CNCHI = DPM/REL

X (m)	Y (m)	Average DPM (ug/m3)	Max DPM (ug/m3)	CNCHI
517482.37	4264137.27	0.0596	0.0596	0.012

#### Unmitigated

#### Annual PM2.5 Total (Exhaust + Fugitive Dust)

X (m)	Y (m)	Average PM2.5 Total (ug/m3)	Max PM2.5 (ug/m3)
517482.37	4264137.27	0.0677	0.068

MODELING OF IONS USED: Reg DFAULT CONC ELEV UR BAN									
PLOT FILE OF ANNUAL VALUES AVERAGE ACROSS 5 YEARS FOR SOURCE GROUP: AREA1									
FOR A TOTAL OF 29 RECEPTORS.									
FORM AT: (3(1X,F13.5), 3(1X,F8.2), 2X,A6,2X,A 8,2X,18.8, 2X,A8)									
X	Y	AVERAGE CONC	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.89	4264455.69	13366.2281	28.96	28.96	0	ANNUAL	AREA1	5	
517269.04	4264461.75	13637.60884	29	29	0	ANNUAL	AREA1	5	
517281.15	4264446.99	15496.43377	28.97	28.97	0	ANNUAL	AREA1	5	
517298.19	4264444.34	16597.14905	29.28	29.28	0	ANNUAL	AREA1	5	
517309.93	4264459.1	15562.37745	29.88	29.88	0	ANNUAL	AREA1	5	
517345.52	4264436.76	18903.61383	30	30	0	ANNUAL	AREA1	5	
517370.51	4264453.42	16744.62783	30	30	0	ANNUAL	AREA1	5	
517364.07	4264426.16	20213.14966	30	30	0	ANNUAL	AREA1	5	
517379.21	4264418.97	20723.21406	30	30	0	ANNUAL	AREA1	5	
517482.37	4264137.27	26418.33165	33	33	0	ANNUAL	AREA1	5	
517487.68	4264137.57	24149.56105	33	33	0	ANNUAL	AREA1	5	
517243.7	4263895.95	5556.74347	34	34	0	ANNUAL	AREA1	5	
517263.14	4263894.56	6840.977	33.68	33.68	0	ANNUAL	AREA1	5	
517273.57	4263857.61	6261.97702	33.34	33.34	0	ANNUAL	AREA1	5	
517304.16	4263857.61	8219.77354	33	33	0	ANNUAL	AREA1	5	
517329.44	4263861.6	10287.21476	33	33	0	ANNUAL	AREA1	5	
517365.36	4263864.26	13068.66595	33	33	0	ANNUAL	AREA1	5	
517254.94	4263833.66	4706.24826	33.96	33.96	0	ANNUAL	AREA1	5	
517293.52	4263831	6445.84286	33	33	0	ANNUAL	AREA1	5	
517329.44	4263836.33	8669.05842	33	33	0	ANNUAL	AREA1	5	
517368.02	4263837.66	10897.78812	33	33	0	ANNUAL	AREA1	5	
517266.92	4263807.06	4614.98125	33.85	33.85	0	ANNUAL	AREA1	5	
517309.48	4263804.4	6253.18088	33.1	33.1	0	ANNUAL	AREA1	5	
517341.41	4263807.06	7767.17051	33	33	0	ANNUAL	AREA1	5	
517373.34	4263813.71	9459.95597	33.43	33.43	0	ANNUAL	AREA1	5	
517217	4264134.98	11171.14996	32	32	0	ANNUAL	AREA1	5	
517226.77	4264135.42	14463.29353	32	32	0	ANNUAL	AREA1	5	
517172.6	4264134.72	4834.77601	32	32	0	ANNUAL	AREA1	5	
517187.88	4264135.42	6222.05436	32	32	0	ANNUAL	AREA1	5	

CONCUNIT ug /m<sup>3</sup>  
 DEPUNIT g/m<sup>2</sup>



MODEL INCONS USED DFAULT CONC ELEV UR BAN  
 PLOT FILE OF AN VALUES AVERA GED ACRO 5 YEARS FOR SO URCE GRO UP: AREA2  
 FOR A TOTAL OF RECEPTORS.

FORMA T: (3(1X,F1 ,3(1X,F8.2), 2X,A6,2X,A8,2X,I8.8, 2X,A8)

X	Y	AVERAGE CONC	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.9	4264456	3305.80606	28.96	28.96		0 ANNUAL	AREA2		5
517269	4264462	3196.26461	29	29		0 ANNUAL	AREA2		5
517281.2	4264447	3424.19062	28.97	28.97		0 ANNUAL	AREA2		5
517298.2	4264444	3447.52744	29.28	29.28		0 ANNUAL	AREA2		5
517309.9	4264459	3180.81992	29.88	29.88		0 ANNUAL	AREA2		5
517345.5	4264437	3482.31793	30	30		0 ANNUAL	AREA2		5
517370.5	4264453	3107.67948	30	30		0 ANNUAL	AREA2		5
517364.1	4264426	3623.43778	30	30		0 ANNUAL	AREA2		5
517379.2	4264419	3700.1647	30	30		0 ANNUAL	AREA2		5
517482.4	4264137	7734.62724	33	33		0 ANNUAL	AREA2		5
517487.7	4264138	7110.97098	33	33		0 ANNUAL	AREA2		5
517243.7	4263896	2747.25628	34	34		0 ANNUAL	AREA2		5
517263.1	4263895	3018.46655	33.68	33.68		0 ANNUAL	AREA2		5
517273.6	4263858	2687.70101	33.34	33.34		0 ANNUAL	AREA2		5
517304.2	4263858	3576.24087	33	33		0 ANNUAL	AREA2		5
517329.4	4263862	5360.66651	33	33		0 ANNUAL	AREA2		5
517365.4	4263864	12694.8287	33	33		0 ANNUAL	AREA2		5
517254.9	4263834	2144.51862	33.96	33.96		0 ANNUAL	AREA2		5
517293.5	4263831	2734.73713	33	33		0 ANNUAL	AREA2		5
517329.4	4263836	4600.83984	33	33		0 ANNUAL	AREA2		5
517368	4263838	12166.67697	33	33		0 ANNUAL	AREA2		5
517266.9	4263807	2013.25266	33.85	33.85		0 ANNUAL	AREA2		5
517309.5	4263804	2740.7394	33.1	33.1		0 ANNUAL	AREA2		5
517341.4	4263807	4648.58766	33	33		0 ANNUAL	AREA2		5
517373.3	4263814	12497.8247	33.43	33.43		0 ANNUAL	AREA2		5
517217	4264135	10139.59571	32	32		0 ANNUAL	AREA2		5
517226.8	4264135	10060.24282	32	32		0 ANNUAL	AREA2		5
517172.6	4264135	10433.8908	32	32		0 ANNUAL	AREA2		5
517187.9	4264135	10228.01798	32	32		0 ANNUAL	AREA2		5

CONCUNIT m^3

DEPUNIT g 2

MODELINÇIONS USEDFAULT CO ELEV UR BAN

PLOT FILE OF ANALUES AVEGED ACRO 5 YEARS FOR SO URCE GRO UP: ROAD1  
 FOR A TOTAL O RECEPTORS.

FORM AT: (3(1X,F3(1X,F8.2), 2X,A6,2X,A8,2X,18.8, 2X,A8)

X	Y	A	VERAGE C(ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.9	4264456	1.03865	28.96	28.96		0 ANNUAL	ROAD1		5
517269	4264462	1.10115	29	29		0 ANNUAL	ROAD1		5
517281.2	4264447	1.25114	28.97	28.97		0 ANNUAL	ROAD1		5
517298.2	4264444	1.38556	29.28	29.28		0 ANNUAL	ROAD1		5
517309.9	4264459	1.36584	29.88	29.88		0 ANNUAL	ROAD1		5
517345.5	4264437	1.77801	30	30		0 ANNUAL	ROAD1		5
517370.5	4264453	1.7524	30	30		0 ANNUAL	ROAD1		5
517364.1	4264426	2.00979	30	30		0 ANNUAL	ROAD1		5
517379.2	4264419	2.18771	30	30		0 ANNUAL	ROAD1		5
517482.4	4264137	15.20322	33	33		0 ANNUAL	ROAD1		5
517487.7	4264138	15.33224	33	33		0 ANNUAL	ROAD1		5
517243.7	4263896	0.35149	34	34		0 ANNUAL	ROAD1		5
517263.1	4263895	0.40051	33.68	33.68		0 ANNUAL	ROAD1		5
517273.6	4263858	0.36927	33.34	33.34		0 ANNUAL	ROAD1		5
517304.2	4263858	0.44691	33	33		0 ANNUAL	ROAD1		5
517329.4	4263862	0.53075	33	33		0 ANNUAL	ROAD1		5
517365.4	4263864	0.65863	33	33		0 ANNUAL	ROAD1		5
517254.9	4263834	0.30047	33.96	33.96		0 ANNUAL	ROAD1		5
517293.5	4263831	0.37396	33	33		0 ANNUAL	ROAD1		5
517329.4	4263836	0.46946	33	33		0 ANNUAL	ROAD1		5
517368	4263838	0.57924	33	33		0 ANNUAL	ROAD1		5
517266.9	4263807	0.29299	33.85	33.85		0 ANNUAL	ROAD1		5
517309.5	4263804	0.36647	33.1	33.1		0 ANNUAL	ROAD1		5
517341.4	4263807	0.43759	33	33		0 ANNUAL	ROAD1		5
517373.3	4263814	0.52671	33.43	33.43		0 ANNUAL	ROAD1		5
517217	4264135	0.8544	32	32		0 ANNUAL	ROAD1		5
517226.8	4264135	1.01409	32	32		0 ANNUAL	ROAD1		5
517172.6	4264135	0.46991	32	32		0 ANNUAL	ROAD1		5
517187.9	4264135	0.56433	32	32		0 ANNUAL	ROAD1		5

CONCUNIT /m^3

DEPUNIT g ^2

MODELINCTIONS USED DFAULT C ELEV UR BAN

PLOT FILE OF AN VALUES AV GED ACRO 5 YEARS FOR SO URCE GRO UP: ROAD2  
 FOR A TOTAL O RECEPTORS.

FORM AT: (3(1X,F,3(1X,F8.2)2X,A6,2X,A8,2X,18.8, 2X,A8)

X	Y	AVERAGE (ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.9	4264456	1.81219	28.96	28.96	0 ANNUAL	ROAD2		5
517269	4264462	1.65238	29	29	0 ANNUAL	ROAD2		5
517281.2	4264447	1.69199	28.97	28.97	0 ANNUAL	ROAD2		5
517298.2	4264444	1.57759	29.28	29.28	0 ANNUAL	ROAD2		5
517309.9	4264459	1.38127	29.88	29.88	0 ANNUAL	ROAD2		5
517345.5	4264437	1.24134	30	30	0 ANNUAL	ROAD2		5
517370.5	4264453	0.99756	30	30	0 ANNUAL	ROAD2		5
517364.1	4264426	1.15197	30	30	0 ANNUAL	ROAD2		5
517379.2	4264419	1.07393	30	30	0 ANNUAL	ROAD2		5
517482.4	4264137	0.53444	33	33	0 ANNUAL	ROAD2		5
517487.7	4264138	0.51375	33	33	0 ANNUAL	ROAD2		5
517243.7	4263896	1.46785	34	34	0 ANNUAL	ROAD2		5
517263.1	4263895	1.43333	33.68	33.68	0 ANNUAL	ROAD2		5
517273.6	4263858	1.17396	33.34	33.34	0 ANNUAL	ROAD2		5
517304.2	4263858	1.1221	33	33	0 ANNUAL	ROAD2		5
517329.4	4263862	1.07496	33	33	0 ANNUAL	ROAD2		5
517365.4	4263864	0.96103	33	33	0 ANNUAL	ROAD2		5
517254.9	4263834	1.05603	33.96	33.96	0 ANNUAL	ROAD2		5
517293.5	4263831	1.01339	33	33	0 ANNUAL	ROAD2		5
517329.4	4263836	0.97046	33	33	0 ANNUAL	ROAD2		5
517368	4263838	0.87227	33	33	0 ANNUAL	ROAD2		5
517266.9	4263807	0.92908	33.85	33.85	0 ANNUAL	ROAD2		5
517309.5	4263804	0.88418	33.1	33.1	0 ANNUAL	ROAD2		5
517341.4	4263807	0.84349	33	33	0 ANNUAL	ROAD2		5
517373.3	4263814	0.79182	33.43	33.43	0 ANNUAL	ROAD2		5
517217	4264135	18.37804	32	32	0 ANNUAL	ROAD2		5
517226.8	4264135	18.28588	32	32	0 ANNUAL	ROAD2		5
517172.6	4264135	19.35926	32	32	0 ANNUAL	ROAD2		5
517187.9	4264135	19.31901	32	32	0 ANNUAL	ROAD2		5

CONCUNIT /m^3

DEPUNIT g ^2

MODELING CONDITIONS USED DEFAULT C ELEV UR BAN

PLOT FILE OF AN VALUES A V GED ACRO 5 YEARS FOR SO URCE GRO UP: ROAD3

FOR A TOTAL O RECEPTORS.

FORM AT: (3(1X,F,3(1X,F8.2) 2X,A6,2X,A 8,2X,18.8, 2X,A8)

X	Y	AVERAGE (ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.9	4264456	0.72493	28.96	28.96	0 ANNUAL	ROAD3		5
517269	4264462	0.74325	29	29	0 ANNUAL	ROAD3		5
517281.2	4264447	0.81801	28.97	28.97	0 ANNUAL	ROAD3		5
517298.2	4264444	0.87107	29.28	29.28	0 ANNUAL	ROAD3		5
517309.9	4264459	0.84382	29.88	29.88	0 ANNUAL	ROAD3		5
517345.5	4264437	1.03079	30	30	0 ANNUAL	ROAD3		5
517370.5	4264453	1.00946	30	30	0 ANNUAL	ROAD3		5
517364.1	4264426	1.14454	30	30	0 ANNUAL	ROAD3		5
517379.2	4264419	1.23779	30	30	0 ANNUAL	ROAD3		5
517482.4	4264137	6.32689	33	33	0 ANNUAL	ROAD3		5
517487.7	4264138	5.74465	33	33	0 ANNUAL	ROAD3		5
517243.7	4263896	1.02567	34	34	0 ANNUAL	ROAD3		5
517263.1	4263895	1.33602	33.68	33.68	0 ANNUAL	ROAD3		5
517273.6	4263858	1.3574	33.34	33.34	0 ANNUAL	ROAD3		5
517304.2	4263858	2.24687	33	33	0 ANNUAL	ROAD3		5
517329.4	4263862	3.82691	33	33	0 ANNUAL	ROAD3		5
517365.4	4263864	10.18511	33	33	0 ANNUAL	ROAD3		5
517254.9	4263834	0.94114	33.96	33.96	0 ANNUAL	ROAD3		5
517293.5	4263831	1.64007	33	33	0 ANNUAL	ROAD3		5
517329.4	4263836	3.38548	33	33	0 ANNUAL	ROAD3		5
517368	4263838	10.07146	33	33	0 ANNUAL	ROAD3		5
517266.9	4263807	0.98663	33.85	33.85	0 ANNUAL	ROAD3		5
517309.5	4263804	1.86521	33.1	33.1	0 ANNUAL	ROAD3		5
517341.4	4263807	3.74941	33	33	0 ANNUAL	ROAD3		5
517373.3	4263814	10.78475	33.43	33.43	0 ANNUAL	ROAD3		5
517217	4264135	1.10266	32	32	0 ANNUAL	ROAD3		5
517226.8	4264135	1.21897	32	32	0 ANNUAL	ROAD3		5
517172.6	4264135	0.72336	32	32	0 ANNUAL	ROAD3		5
517187.9	4264135	0.83172	32	32	0 ANNUAL	ROAD3		5

CONCUNIT /m^3

DEPUNIT g^2

MODELINCTIONS USEC gDEFAULT (ELEV UR BAN

PLOT FILE OF AN VALUES A\ GED ACRO 5 YEARS FOR SO URCE GRO UP: ROAD4

FOR A TOTAL O 9 RECEPTORS.

FORM AT: (3{1X,F}),3(1X,F8.2 2X,A6,2X,A 8,2X,I8.8, 2X,A8)

X	Y	AVERAGE (ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
517253.9	4264456	0.21748	28.96	28.96	0 ANNUAL	ROAD4		5
517269	4264462	0.21813	29	29	0 ANNUAL	ROAD4		5
517281.2	4264447	0.22823	28.97	28.97	0 ANNUAL	ROAD4		5
517298.2	4264444	0.23372	29.28	29.28	0 ANNUAL	ROAD4		5
517309.9	4264459	0.22872	29.88	29.88	0 ANNUAL	ROAD4		5
517345.5	4264437	0.24994	30	30	0 ANNUAL	ROAD4		5
517370.5	4264453	0.24674	30	30	0 ANNUAL	ROAD4		5
517364.1	4264426	0.26167	30	30	0 ANNUAL	ROAD4		5
517379.2	4264419	0.27093	30	30	0 ANNUAL	ROAD4		5
517482.4	4264137	0.73653	33	33	0 ANNUAL	ROAD4		5
517487.7	4264138	0.73414	33	33	0 ANNUAL	ROAD4		5
517243.7	4263896	0.8861	34	34	0 ANNUAL	ROAD4		5
517263.1	4263895	1.04934	33.68	33.68	0 ANNUAL	ROAD4		5
517273.6	4263858	1.22332	33.34	33.34	0 ANNUAL	ROAD4		5
517304.2	4263858	1.68951	33	33	0 ANNUAL	ROAD4		5
517329.4	4263862	2.1745	33	33	0 ANNUAL	ROAD4		5
517365.4	4263864	2.98107	33	33	0 ANNUAL	ROAD4		5
517254.9	4263834	1.01396	33.96	33.96	0 ANNUAL	ROAD4		5
517293.5	4263831	1.56828	33	33	0 ANNUAL	ROAD4		5
517329.4	4263836	2.43481	33	33	0 ANNUAL	ROAD4		5
517368	4263838	3.85753	33	33	0 ANNUAL	ROAD4		5
517266.9	4263807	1.13566	33.85	33.85	0 ANNUAL	ROAD4		5
517309.5	4263804	1.96251	33.1	33.1	0 ANNUAL	ROAD4		5
517341.4	4263807	3.22608	33	33	0 ANNUAL	ROAD4		5
517373.3	4263814	5.23354	33.43	33.43	0 ANNUAL	ROAD4		5
517217	4264135	0.4495	32	32	0 ANNUAL	ROAD4		5
517226.8	4264135	0.46272	32	32	0 ANNUAL	ROAD4		5
517172.6	4264135	0.3866	32	32	0 ANNUAL	ROAD4		5
517187.9	4264135	0.4077	32	32	0 ANNUAL	ROAD4		5

CONCUNIT /m^3

DEPUNIT g^2

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## **A.4 - Additional Supporting Air Quality and GHG Materials**

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Shiloh Mixed Use Project

**PG&E Electricity Emissions Factors**

Year	lbs CO <sub>2</sub> e/MWh
2020-2029	390.65
2030	292.24

**2008 Electricity Emissions Factor**

Emissions Factors	t/kWh	Share of Portfolio	t/kWh	t/MWh	lbs/MWh
RPS sources	-	14%	-		
Natural Gas	0.000459	44%	0.00020174		
Nuclear	0.000002	22%	0.00000035		
Coal	0.001037	2%	0.00002075		
Other	0.000427	18%	0.00007695		
Total	-	100%	0.00029979	0.30	660.91

**Power Content Label**

PG&E 2008	%	Source
RPS sources	14%	<a href="https://www2.energy.ca.gov/pcl/labels/2008_index.html">https://www2.energy.ca.gov/pcl/labels/2008_index.html</a>
Natural Gas	44%	
Nuclear	22%	
Coal	2%	
Other	18%	
Total	100%	

**Natural Gas Facility Emissions Factor Calculation**

Natural Gas Emissions Factor	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	Source
kg per mmBtu	53.06	-	-	-	<a href="https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf">https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf</a>
g per mmBtu	53,060	1.00	0.10	-	
t per mmBtu	0.05	0.00	0.00	-	Calculated
t CO <sub>2</sub> e per mmBtu	0.05	0.00	0.00	0.05	Calculated
t CO <sub>2</sub> e per GJ	-	-	-	0.06	Calculated

**Heat Rates**

Value	Units	Source	Notes
7,755	btu/kWh	<a href="http://www.energy.ca.gov/2017publications/CEC-200-2017-003/CEC-200-2017-003.pdf">http://www.energy.ca.gov/2017publications/CEC-200-2017-003/CEC-200-2017-003.pdf</a>	Table 1, State Average w/o Cogeneration (per last paragraph on pg 4)
0.00818196	GJ/kWh	Converted in Google: GJ per btu	

**Natural Gas Facility Emissions Factor**

Natural gas emissions factor	0.06	t CO <sub>2</sub> e per GJ
Natural gas facility heat rate	0.00818196	GJ/kWh
Natural Gas Facility Emissions Factor	0.000458507	t CO <sub>2</sub> e per kWh

**Nuclear Emissions Factor**

Nuclear GHG Emissions	0.40	gCO <sub>2</sub> e/MJ	<a href="https://www.arb.ca.gov/fuels/lcfs/022709lcfs_elec.pdf">https://www.arb.ca.gov/fuels/lcfs/022709lcfs_elec.pdf</a>
Nuclear Emissions Factor	0.00000159	t/kWh	

**Unspecified Electricity Source Emissions Factor Calculation**

**ARB California GHG Inventory Unspecified Electricity Emissions Factors**

2014	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	Units	Source
Pacific Northwest (PNW)	427	0.008117	0.00094388	427.4774	g/kWh	<a href="https://www.arb.ca.gov/cc/inventory/doc/methods_00-14/annex_1b_electricity_production_imports.pdf">https://www.arb.ca.gov/cc/inventory/doc/methods_00-14/annex_1b_electricity_production_imports.pdf</a>
Pacific Southwest (PSW)	427	0.008117	0.00094388	427.4774	g/kWh	
PNW and PSW	-	-	-	0.000427	t/kWh	-

**Other/Unspecified Emissions Factor**

Unspecified Electricity Emissions Factor	0.000427	t CO <sub>2</sub> e per kWh
--	----------	-----------------------------

**Coal Electricity Source Emissions Factor Calculation**

**ARB California GHG Inventory Unspecified Electricity Emissions Factors**

2007	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	Units	Source
Coal Electricity Source Emissions Factor Calculation	1033	0.011	0.0153	1037.363	g/kWh	<a href="https://www.arb.ca.gov/cc/inventory/doc/methods_00-14/annex_1b_electricity_production_imports.pdf">https://www.arb.ca.gov/cc/inventory/doc/methods_00-14/annex_1b_electricity_production_imports.pdf</a>
Total	-	-	-	0.001037	t/kWh	-

**Coal Emissions Factor**

Unspecified Electricity Emissions Factor	0.001037	t CO <sub>2</sub> e per kWh
--	----------	-----------------------------

**2022 and 2030 Electricity Emissions Factors**

Non-RPS Energy	Year	PG&E RPS Position	Notes	Source
89.0%	2008	11.0%		<a href="https://ww2.energy.ca.gov/pcl/labels/2009_index.html">https://ww2.energy.ca.gov/pcl/labels/2009_index.html</a>
67.0%	2022	33.0%		
50.0%	2030	50.0%		

**Estimated Power Content Label Sources**

PG&E	2008	Share of Non-RPS in 2008	2022	Share of Non-RPS in 2022	2030
RPS	14.0%	-	33.0%	-	50.0%
Natural Gas	44.0%	49%	20.0%	29.9%	14.9%
Nuclear	22.0%	25%	27.0%	40.3%	20.1%
Coal	2.0%	2%	0.0%	0.0%	0.0%
Other	18.0%	20%	20.0%	29.9%	14.9%
Total	100%	97%	100%	100.0%	100%

**2022**

Emissions Factors	t/kWh	Share of Portfolio	t/kWh	t/MWh	lbs/MWh
RPS	-	33.0%	-		
Natural Gas	0.000459	20.0%	0.000092		
Nuclear	0.000002	27.0%			
Coal	0.001037	0.0%	-		
Unspecified	0.000427	20.0%	0.000085		
Total	-	100.0%	0.000177	0.18	390.65

**2030**

Emissions Factors	t/kWh	Share of Portfolio	t/kWh	t/MWh	lbs/MWh
RPS	-	50.0%	-		
Natural Gas	0.000459	14.9%	0.000068		
Nuclear	0.000002	20.1%	0.000000		
Coal	0.001037	0.0%	-		
Unspecified	0.000427	14.9%	0.000064		
Total	-	100.0%	0.000133	0.13	292.24

**CONVERSION FACTORS****Conversions**

GJ	mmBtu
1	0.947817
g	kg
1	1,000
g	t
1	0.000001
lb	t
2,204.62	1
kW	MW
1	0.001

**GWP Factors**

CO <sub>2</sub>	1
CH <sub>4</sub>	28
N <sub>2</sub> O	265

Demolition

Parameters*			
1	bld sq ft		10 cf bld volume
1	cf bld volume	0.25	cf waste volume
1	cf	0.037	cy
1	cy waste volume	0.5	ton waste weight
1	sf	<b>0.046</b>	<b>ton waste material</b>
1	truck	16	cy haul capacity

<--as listed in CalEEMod Appendix A

October 2017 CalEEMod Appendix A

Existing	Description	sq.ft**	height/ depth (ft)***	density (lbs/cf)****	Demolition Weight (pounds)	Demolition Weight (tons)		
Building g.s.f.	Buildings	2,508				115.37		
Hardscape g.s.f.	Hardscape	1,167	0.5	150	87,525	43.76		
<b>Total</b>					<b>87,525</b>	<b>159</b>		

\*Source: California Air Pollution Control Officers Association (CAPCOA). 2017. Appendix A Calculation Details for CalEEMod. October.

\*\*Source: Square footage provided in project description

\*\*\*Source: DC Construction Services. 2017. How Thick Is Parking Lot Asphalt? Website: <https://dccpaving.com/how-thick-is-parking-lot-asphalt/>. Accessed December 23, 2019.

\*\*\*\*Source: SFGate. 2019. How to Calculate Asphalt Weight Per Yard. Website: <https://homeguides.sfgate.com/calculate-asphalt-weight-per-yard-81825.html>

**A.5 - Energy**

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## **Shiloh Mixed Use Project Energy Use Summary**

### **Summary of Energy Use During Construction**

(Annually)

Construction vehicle fuel	4,225 gallons (gasoline, diesel)
Construction equipment fuel	20,118 gallons (diesel)
Construction office electricity	9,531 kilowatt hours

### **Summary of Energy Use During Proposed Operations**

(Annually)

Operation vehicle fuel	95,744 gallons (gasoline, diesel)
Operation natural gas	0 kilo-British Thermal Units
Operation electricity	296,087 kilowatt hours

### **Summary of Energy Use During Existing Operations**

(Annually)

Operation vehicle fuel	1,151 gallons (gasoline, diesel)
Operation natural gas	29,065 kilo-British Thermal Units
Operation electricity	8,091 kilowatt hours

### **Increase in Energy Use from Existing Operations to Proposed Operations (Annually)**

Additional operation vehicle fuel	94,593 gallons (gasoline, diesel)
Additional operation natural gas	-29,065 kilo-British Thermal Units
Additional operation electricity	287,996 kilowatt hours

**Construction Vehicle Fuel Calculations**

California Air Resource Board. 2020. EMFAC2014 Web Database. March. Website: <https://www.arb.ca.gov/emfac/2014/>. Accessed March 9, 2020.

VMT = Vehicle Miles Traveled  
FE = Fuel Economy

**EMFAC2014 Web Database**

(v1.0.7)

Data Type:  Emissions  Emission Rates

Region:

Calendar Year:

Season:

Vehicle Category:

Model Year:

Speed:

Fuel:

EMFAC2014 (v1.0.7) Emissions Inventory  
Region Type: County  
Region: Sonoma  
Calendar Year: 2020  
Season: Annual  
Vehicle Classification: EMFAC2007 Categories  
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT (mi/day)	Fuel_Consumption (1000 gallons/day)	Calculations	
									FE (mi/gallon)	VMT*FE
Sonoma	2020	HHDT	Aggregated	Aggregated	GAS	16.56629	1897.091503	0.417841	4.540222963	8613.218406
Sonoma	2020	HHDT	Aggregated	Aggregated	DSL	1943.484	236524.2762	42.42808	5.574710908	1318554.463
Sonoma	2020	LDA	Aggregated	Aggregated	GAS	125908.7	5044681.859	178.4636	28.26729138	142599492
Sonoma	2020	LDA	Aggregated	Aggregated	DSL	1695.899	64790.02791	1.862308	34.79018758	2254057.224
Sonoma	2020	LDT1	Aggregated	Aggregated	GAS	11375.56	380686.9649	16.41754	23.18782518	8827302.791
Sonoma	2020	LDT1	Aggregated	Aggregated	DSL	26.47391	432.0820582	0.017057	25.33121206	10945.16225
Sonoma	2020	LDT2	Aggregated	Aggregated	GAS	38043.64	1582631.994	74.87303	21.13754403	33452953.45
Sonoma	2020	LDT2	Aggregated	Aggregated	DSL	58.2454	2817.034269	0.099323	28.36237497	79897.78224
Sonoma	2020	LHDT1	Aggregated	Aggregated	GAS	4004.666	120218.4496	12.59599	9.544186458	1147387.299
Sonoma	2020	LHDT1	Aggregated	Aggregated	DSL	4912.28	162367.0728	9.518304	17.05840455	2769723.214
Sonoma	2020	LHDT2	Aggregated	Aggregated	GAS	547.6528	19946.931	2.293679	8.696479082	173468.0682
Sonoma	2020	LHDT2	Aggregated	Aggregated	DSL	1181.855	45309.99288	2.938225	15.42087065	698719.5394
Sonoma	2020	MHDT	Aggregated	Aggregated	GAS	338.4892	15195.45571	2.426673	6.261846358	95151.609
Sonoma	2020	MHDT	Aggregated	Aggregated	DSL	4824.087	248076.6053	29.94827	8.283502442	2054943.166

**Worker**  
Sum of VMT\*FE (Column BI) 187224648.5  
Total VMT 7076039.962  
Weighted Average FE 26.45895861

**Vendor**  
Sum of VMT\*FE (Column BI) 8266560.576  
Total VMT 849535.875  
Weighted Average FE 9.73067862

**Haul**  
Sum of VMT\*FE (Column BI) 1327167.681  
Total VMT 238421.3677  
Weighted Average FE 5.566479606

**Shiloh Mixed Use Project Construction Assumptions**

**On-site Construction**

Source: AQ/GHG Appendix, CalEEMod Output  
Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual  
Date: 3/6/2020 3:08 PM

Construction Schedule	Phase Name	Phase Type	Start Date	End Date	Num Days	
					Week	Num Days
	Demolition	Demolition	6/1/2020	6/11/2020	6	10
	Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15
	Grading	Grading	6/30/2020	7/10/2020	6	10
	Paving	Paving	7/11/2020	7/22/2020	6	10
	Building Construction	Building Construction	7/23/2020	2/27/2021	6	189
	Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10

Trips and VMT	Phase Name	Trips per Day		Total Trips		Vendor					Worker					Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
		Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Worker Trip Length	Hauling Trip Length	Num Days	Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips				
Demolition		13	0	32	10.8	7.3	20	10	130	0	32	1,404	0	640	53.06	0.00	5.75							
Site Preparation		8	0	0	10.8	7.3	20	15	120	0	0	1,296	0	0	48.98	0.00	0.00							
Grading		8	0	375	10.8	7.3	20	10	80	0	375	864	0	7,500	32.65	0.00	67.37							
Paving		13	0	0	10.8	7.3	20	10	130	0	0	1,404	0	0	53.06	0.00	0.00							
Building Construction		34	9	0	10.8	7.3	20	189	6,426	1,701	0	69,401	12,417	0	2,622.96	1,276.10	0.00							
Architectural Coating		7	0	0	10.8	7.3	20	10	70	0	0	756	0	0	28.57	0.00	0.00							

On-site Total Construction VMT (miles)  
**95,682**

On-Site Total Fuel Consumption (gallons)  
**4,189**



**Offsite Construction (Roadway Improvements)**

Source: AQ/GHG Appendix, CalEEMod Output  
 Shiloh Mixed Use Project Off-site Improvements - Sonoma-North Coast County, Annual  
 Date: 2/25/2020 11:33 AM

Construction Schedule	Phase Name	Phase Type	Start Date	End Date	Num Days															
					Week	Num Days														
	Paving	Paving	7/19/2020	7/24/2020	5	5														
Trips and VMT	Phase Name	Trips per Day			Total Trips			Vendor		Worker		Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
		Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Num Days	Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips			
	Paving	18	0	0	10.8	7.3	20	5	90	0	0	972	0	0	36.74	0.00	0.00			
		Offsite Total Construction VMT (miles)																		
		972																		
		Offsite Total Fuel Consumption (gallons)																		
		37																		
		Total Project Construction VMT (miles)																		
		96,654																		
		Total Project Fuel Consumption (gallons)																		
		4,225																		

**Construction Equipment Fuel Calculation**

**On-site**

Source: AQ/GHG Appendix, CalEEMod Output  
 Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual  
 Date: 3/6/2020 3:08 PM

Construction Schedule	Phase Name	Phase Type	Start Date	End Date	Num Days		Load Factor	Number of Days	HP Hours	Diesel Fuel Usage
					Week	Num Days				
	Demolition	Demolition	6/1/2020	6/11/2020	6	10				
	Site Preparation	Site Preparation	6/12/2020	6/29/2020	6	15				
	Grading	Grading	6/30/2020	7/10/2020	6	10				
	Paving	Paving	7/11/2020	7/22/2020	6	10				
	Building Construction	Building Construction	7/23/2020	2/27/2021	6	189				
	Architectural Coating	Architectural Coating	2/17/2021	2/27/2021	6	10				
Construction Equipment	Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	Diesel Fuel Usage	
	Demolition	Concrete/Industrial Saws	1	8	81	0.73	10	4,730.40	236.52	
	Demolition	Rubber Tired Dozers	1	8	247	0.4	10	7,904.00	395.20	
	Demolition	Tractors/Loaders/Backhoes	3	8	97	0.37	10	8,613.60	430.68	
	Site Preparation	Graders	1	8	187	0.41	15	9,200.40	460.02	
	Site Preparation	Rubber Tired Dozers	1	7	247	0.4	15	10,374.00	518.70	
	Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37	15	4,306.80	215.34	
	Grading	Graders	1	6	187	0.41	10	4,600.20	230.01	
	Grading	Rubber Tired Dozers	1	6	247	0.4	10	5,928.00	296.40	
	Grading	Tractors/Loaders/Backhoes	1	7	97	0.37	10	2,512.30	125.62	
	Paving	Cement and Mortar Mixers	1	6	9	0.56	10	302.40	15.12	
	Paving	Pavers	1	6	130	0.42	10	3,276.00	163.80	
	Paving	Paving Equipment	1	8	132	0.36	10	3,801.60	190.08	
	Paving	Rollers	1	7	80	0.38	10	2,128.00	106.40	
	Paving	Tractors/Loaders/Backhoes	1	8	97	0.37	10	2,871.20	143.56	
	Building Construction	Cranes	1	6	231	0.29	189	75,966.66	3,798.33	
	Building Construction	Forklifts	1	6	89	0.2	189	20,185.20	1,009.26	
	Building Construction	Generator Sets	1	8	84	0.74	189	93,985.92	4,699.30	
	Building Construction	Tractors/Loaders/Backhoes	1	6	97	0.37	189	40,699.26	2,034.96	
	Building Construction	Welders	3	8	46	0.45	189	93,895.20	4,694.76	
	Architectural Coating	Air Compressors	1	6	78	0.48	10	2,246.40	112.32	
<b>On-site Construction Equipment Fuel Consumption</b>									<b>19,876.38 gallons</b>	

**Offsite Roadway Improvements**

Source: AQ/GHG Appendix, CalEEMod Output  
 Shiloh Mixed Use Project Off-site Improvements - Sonoma-North Coast County, Annual  
 Date: 2/25/2020 11:33 AM

Construction Schedule	Phase Name	Phase Type	Start Date	End Date	Num Days		Load Factor	Number of Days	HP Hours	Diesel Fuel Usage
					Week	Num Days				
	Paving	Paving	7/19/2020	7/24/2020	5	5				
Construction Equipment	Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	Diesel Fuel Usage	
	Paving	Cement and Mortar Mixers	4	6	9	0.56	5	604.80	30.24	
	Paving	Pavers	1	7	130	0.42	5	1,911.00	95.55	
	Paving	Rollers	1	7	80	0.38	5	1,064.00	53.20	
	Paving	Tractors/Loaders/Backhoes	1	7	97	0.37	5	1,256.15	62.81	
<b>Offsite Construction Equipment Fuel Consumption</b>									<b>241.80 gallons</b>	
<b>Total Construction Equipment Fuel Consumption</b>									<b>20,118.17 gallons</b>	

**Notes:**

Equipment assumptions are provided in the CalEEMod output files.  
 Fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.  
 South Coast Air Quality Management District. 1993. Air Quality Handbook, Table A9-3E.  
 Website: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook>. Accessed April 18, 2019.

**Construction Office Electricity Calculation**

Energy Appendix: CalEEMod Typical Construction Trailer  
 Typical Construction Trailer - Sonoma-North Coast County, Annual  
 Date: 3/9/2020 10:18 AM

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	12837.8	3.7346	1.7000e-004	3.0000e-005	3.7492
<b>Total</b>		<b>3.7346</b>	<b>1.7000e-004</b>	<b>3.0000e-005</b>	<b>3.7492</b>

kWh/yr = kilowatt hours per year

**Energy by Land Use - Electricity**

Annual 12,838 kWh/yr  
**Total Over Construction 9,531 kWh**

Total Construction Schedule

Start 6/1/2020  
 End 2/27/2021  
 Total Calendar Days 271  
 Years 0.74

**Proposed Operation Fuel Calculation**

California Air Resource Board (ARB). 2020. EMFAC2014 Web Database. Website: <https://www.arb.ca.gov/emfac/2014/>. Accessed March 9, 2020.

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Sonoma

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled

FE = Fuel Economy

*Given*

*Calculations*

Region	CalYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE
Sonoma	2021	HHDT	Aggregated	Aggregated	GAS	16.2357747	1901.58782	0.413152808	4.602626	8752.297397
Sonoma	2021	HHDT	Aggregated	Aggregated	DSL	1990.65771	245931.739	43.4813758	5.656025	1390996.01
Sonoma	2021	LDA	Aggregated	Aggregated	GAS	127800.651	5124518.91	176.0277166	29.112	149184995.2
Sonoma	2021	LDA	Aggregated	Aggregated	DSL	1744.04913	66522.4195	1.85737646	35.81526	2382517.703
Sonoma	2021	LDT1	Aggregated	Aggregated	GAS	10787.9328	366089.647	15.28725683	23.94737	8766885.439
Sonoma	2021	LDT1	Aggregated	Aggregated	DSL	24.1208699	393.849078	0.015190621	25.92712	10211.37273
Sonoma	2021	LDT2	Aggregated	Aggregated	GAS	37609.0288	1576995.55	71.98203753	21.90818	34549104.69
Sonoma	2021	LDT2	Aggregated	Aggregated	DSL	61.9427824	2947.49564	0.101025801	29.17567	85995.16575
Sonoma	2021	LHDT1	Aggregated	Aggregated	GAS	3740.69359	110465.203	11.55172881	9.562656	1056340.683
Sonoma	2021	LHDT1	Aggregated	Aggregated	DSL	4692.50238	152622.895	8.910520906	17.12839	2614184.771
Sonoma	2021	LHDT2	Aggregated	Aggregated	GAS	518.335158	18866.9752	2.158259728	8.741754	164930.4524
Sonoma	2021	LHDT2	Aggregated	Aggregated	DSL	1142.21655	43547.786	2.801706884	15.54331	676876.5416
Sonoma	2021	MCY	Aggregated	Aggregated	GAS	7475.81569	49489.7954	1.405497211	35.21159	1742614.519
Sonoma	2021	MDV	Aggregated	Aggregated	GAS	30063.4821	995008.243	62.82762792	15.83711	15758057.98
Sonoma	2021	MDV	Aggregated	Aggregated	DSL	429.500068	18671.0489	0.848846587	21.99579	410684.4192
Sonoma	2021	MH	Aggregated	Aggregated	GAS	944.722673	7969.92947	1.217382531	6.546775	52177.3347
Sonoma	2021	MH	Aggregated	Aggregated	DSL	264.027529	2361.92909	0.247348009	9.549012	22554.08911
Sonoma	2021	MHDT	Aggregated	Aggregated	GAS	329.754643	15106.2266	2.391642459	6.316256	95414.79808
Sonoma	2021	MHDT	Aggregated	Aggregated	DSL	4906.57378	256968.217	30.90363593	8.315145	2136728.012
Sonoma	2021	OBUS	Aggregated	Aggregated	GAS	150.418135	7934.25359	1.215986499	6.524952	51770.62412
Sonoma	2021	OBUS	Aggregated	Aggregated	DSL	259.670519	20604.4692	2.843487843	7.246196	149304.0142
Sonoma	2021	SBUS	Aggregated	Aggregated	GAS	21.1385156	1094.23205	0.091929642	11.90293	13024.56687
Sonoma	2021	SBUS	Aggregated	Aggregated	DSL	184.829458	7031.80495	0.971560625	7.237639	50893.66491
Sonoma	2021	UBUS	Aggregated	Aggregated	GAS	51.7428284	7584.28379	1.53122594	4.953079	37565.56046
Sonoma	2021	UBUS	Aggregated	Aggregated	DSL	65.6686323	9499.33669	2.153322052	4.41148	41906.13175

Vehicles	
Sum of VMT*FE	221454486
Total VMT	9110127.821
Weighted Average FE	24.30860361 miles/gallon

**Total VMT**

Source: AQ/GHG Appendix, CalEEMod Output

Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual

Date: 3/6/2020 3:08 PM

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartments Low Rise	187.76	208.79	161.08	536,311	536,311
Convenience Market (24 Hour)	2,164.88	3,079.04	2,559.32	1,791,092	1,791,092
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>2,352.63</b>	<b>3,287.83</b>	<b>2,720.40</b>	<b>2,327,403</b>	<b>2,327,403</b>

	Annual VMT (miles)	Fuel Consumption	gallons per year
Total VMT	2,327,403	95,744	



**Proposed Operation Electricity Use**

Source: AQ/GHG Appendix, CalEEMod Output  
 Shiloh Mixed Use Project 2021 - Sonoma-North Coast County, Annual  
 Date: 3/6/2020 3:08 PM

*Project Electricity Use*

kWh/yr = kilowatt hours per year

Land Use	Electricity Use (kWh/yr)
Apartments Low Rise	254527
Convenience Market	30359.6
Other Non-Asphalt Surfaces	0
Parking Lot	11200
<b>Total</b>	<b>296,087 kWh/yr</b>

**5.3 Energy by Land Use - Electricity**  
Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	254527	45.1011	3.3500e-003	6.9000e-004	45.3312
Convenience Market (24 Hour)	30359.6	5.3796	4.0000e-004	8.0000e-005	5.4142
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11200	1.9846	1.5000e-004	3.0000e-005	1.9974
<b>Total</b>		<b>62.4652</b>	<b>3.3000e-003</b>	<b>8.0000e-004</b>	<b>62.8027</b>

*Project would include on-site solar, achieving zero net electricity.*

Land Use	Electricity Use
Apartments Low Rise	-45814.8
Convenience Market	-5464.73
Other Non-Asphalt Surfaces	0
Parking Lot	-2016
<b>Total</b>	<b>-53,296 kWh/yr</b>
<b>Net Operational Electricity</b> (zero net electricity)	<b>0 kWh/yr</b>

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-45814.8	-8.1882	-0.0006	-0.0001	-8.1704
Convenience Market (24 Hour)	-5464.73	-0.9683	-0.0001	0.0000	-0.9746
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	-2016	-0.3572	0.0000	0.0000	-0.3595
<b>Total</b>		<b>-9.4438</b>	<b>-0.0007</b>	<b>-0.0001</b>	<b>-9.5045</b>

**Existing Operation Fuel Calculation**

California Air Resource Board (ARB). 2020. EMFAC2014 Web Database. Website: <https://www.arb.ca.gov/emfac/2014/>. Accessed March 9, 2020.

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: County

Region: Sonoma

Calendar Year: 2020

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT = Vehicle Miles Traveled

FE = Fuel Economy

*Given*

*Calculations*

Region	CalYr	VehClass	MdYr	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE
Sonoma	2020	HHDT	Aggregated	Aggregated	GAS	16.5662897	1897.0915	0.417841044	4.540223	8613.218413
Sonoma	2020	HHDT	Aggregated	Aggregated	DSL	1943.4838	236524.276	42.42807925	5.574711	1318554.463
Sonoma	2020	LDA	Aggregated	Aggregated	GAS	125908.746	5044681.86	178.4635744	28.26729	142599492.1
Sonoma	2020	LDA	Aggregated	Aggregated	DSL	1695.89861	64790.0279	1.862307519	34.79019	2254057.224
Sonoma	2020	LDT1	Aggregated	Aggregated	GAS	11375.5639	380686.965	16.41753644	23.18783	8827302.791
Sonoma	2020	LDT1	Aggregated	Aggregated	DSL	26.4739082	432.082058	0.017057299	25.33121	10945.16242
Sonoma	2020	LDT2	Aggregated	Aggregated	GAS	38043.6391	1582631.99	74.87303122	21.13754	33452953.44
Sonoma	2020	LDT2	Aggregated	Aggregated	DSL	58.2454	2817.03427	0.099322933	28.36238	79897.78235
Sonoma	2020	LHDT1	Aggregated	Aggregated	GAS	4004.66641	120218.45	12.59598711	9.544186	1147387.299
Sonoma	2020	LHDT1	Aggregated	Aggregated	DSL	4912.27977	162367.073	9.518303561	17.0584	2769723.213
Sonoma	2020	LHDT2	Aggregated	Aggregated	GAS	547.652824	19946.931	2.293678949	8.696479	173468.0682
Sonoma	2020	LHDT2	Aggregated	Aggregated	DSL	1181.85508	45309.9929	2.938225338	15.42087	698719.5396
Sonoma	2020	MCY	Aggregated	Aggregated	GAS	7603.59463	50845.8101	1.444743358	35.19366	1789450.281
Sonoma	2020	MDV	Aggregated	Aggregated	GAS	30921.91	1023389.7	66.44029589	15.40315	15763422.73
Sonoma	2020	MDV	Aggregated	Aggregated	DSL	405.060643	17910.5454	0.838063713	21.37134	382772.3739
Sonoma	2020	MH	Aggregated	Aggregated	GAS	1007.57766	8495.51496	1.303504651	6.517441	55369.01949
Sonoma	2020	MH	Aggregated	Aggregated	DSL	274.54389	2476.48627	0.259893672	9.528844	23598.05139
Sonoma	2020	MHDT	Aggregated	Aggregated	GAS	338.489229	15195.4557	2.426673355	6.261846	95151.60897
Sonoma	2020	MHDT	Aggregated	Aggregated	DSL	4824.08698	248076.605	29.94827454	8.283502	2054943.166
Sonoma	2020	OBUS	Aggregated	Aggregated	GAS	150.839397	7976.00962	1.229831739	6.485448	51727.99457
Sonoma	2020	OBUS	Aggregated	Aggregated	DSL	251.763873	19943.7914	2.773122088	7.191819	143432.1326
Sonoma	2020	SBUS	Aggregated	Aggregated	GAS	19.4454924	1012.1676	0.085406821	11.85113	11995.33297
Sonoma	2020	SBUS	Aggregated	Aggregated	DSL	184.221175	7024.21286	0.972866629	7.220119	50715.65287
Sonoma	2020	UBUS	Aggregated	Aggregated	GAS	52.7660017	7748.50893	1.570320941	4.934347	38233.83435
Sonoma	2020	UBUS	Aggregated	Aggregated	DSL	69.2901582	10036.4609	2.294416709	4.374297	43902.46395

Vehicles	
Sum of VMT*FE	213845828.9
Total VMT	9082435.041
Weighted Average FE	23.54498853 miles/gallon

**Total VMT**

Source: AQ/GHG Appendix, CalEEMod Output

Shiloh Mixed Use Project - Existing - Sonoma-North Coast County, Annual

Date: 3/6/2020 10:42 AM

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.52	9.91	8.62	27,101	27,101
<b>Total</b>	<b>9.52</b>	<b>9.91</b>	<b>8.62</b>	<b>27,101</b>	<b>27,101</b>

Vehicles	Annual VMT (miles)	Fuel Consumption	<b>gallons per year</b>
	27,101	1,151	

**Existing Operation Natural Gas Use**

Source: AQ/GHG Appendix, CalEEMod Output  
 Shiloh Mixed Use Project - Existing - Sonoma-North Coast County, Annual  
 Date: 3/6/2020 10:42 AM

kBTU/yr = kilo-British Thermal Units/year  
 CF = cubic feet

kBTU/yr

Single Family Housing	29,065
Total	29,065 kBTU/yr

Conversion from kBTU/yr to CF/yr  
 Abraxas. 2019. Energy Conversion Calculator.

Website: <https://www.abraxasenergy.com/energy-resources/toolbox/conversion-calculators/energy/>. Accessed December 6, 2019.

Energy Conversion Calculator

Equivalency:

**29,065 kBTU/yr**  
**28,495 CF/yr natural gas**

Convert From:   
 kBtu

how many decimal places?

**Convert**

To:

29065000	Btu
29065	kBtu
29.065	Million BTU
30665318900	Joules
30665318.9	kiloJoules
30665.319	MegaJoules
8518.109	kWh
8.518	MWh
290.65	therm
29.065	decatherm
284.951	natural gas CCF
28495.098	natural gas CF

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	29065.1	1.8000e-004	1.3400e-003	5.7000e-004	1.0000e-005	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602
<b>Total</b>		1.8000e-004	1.3400e-003	5.7000e-004	1.0000e-005	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	1.1000e-004	0.0000	1.5510	1.5510	3.0000e-005	3.0000e-005	1.5602



**Existing Operation Electricity Use**

Source: AQ/GHG Appendix, CalEEMod Output

Shiloh Mixed Use Project - Existing - Sonoma-North Coast County, Annual

Date: 3/6/2020 10:42 AM

**Mitigated**

kWh/yr = kilowatt hours per year

Land Use  
Single Family Housing  
  
Total

Electricity Use  
(kWh/yr)  
8090.57  
  
**8,091 kWh/yr**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	8090.57	1.4336	1.1000e-004	2.0000e-005	1.4428
<b>Total</b>		<b>1.4336</b>	<b>1.1000e-004</b>	<b>2.0000e-005</b>	<b>1.4428</b>

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