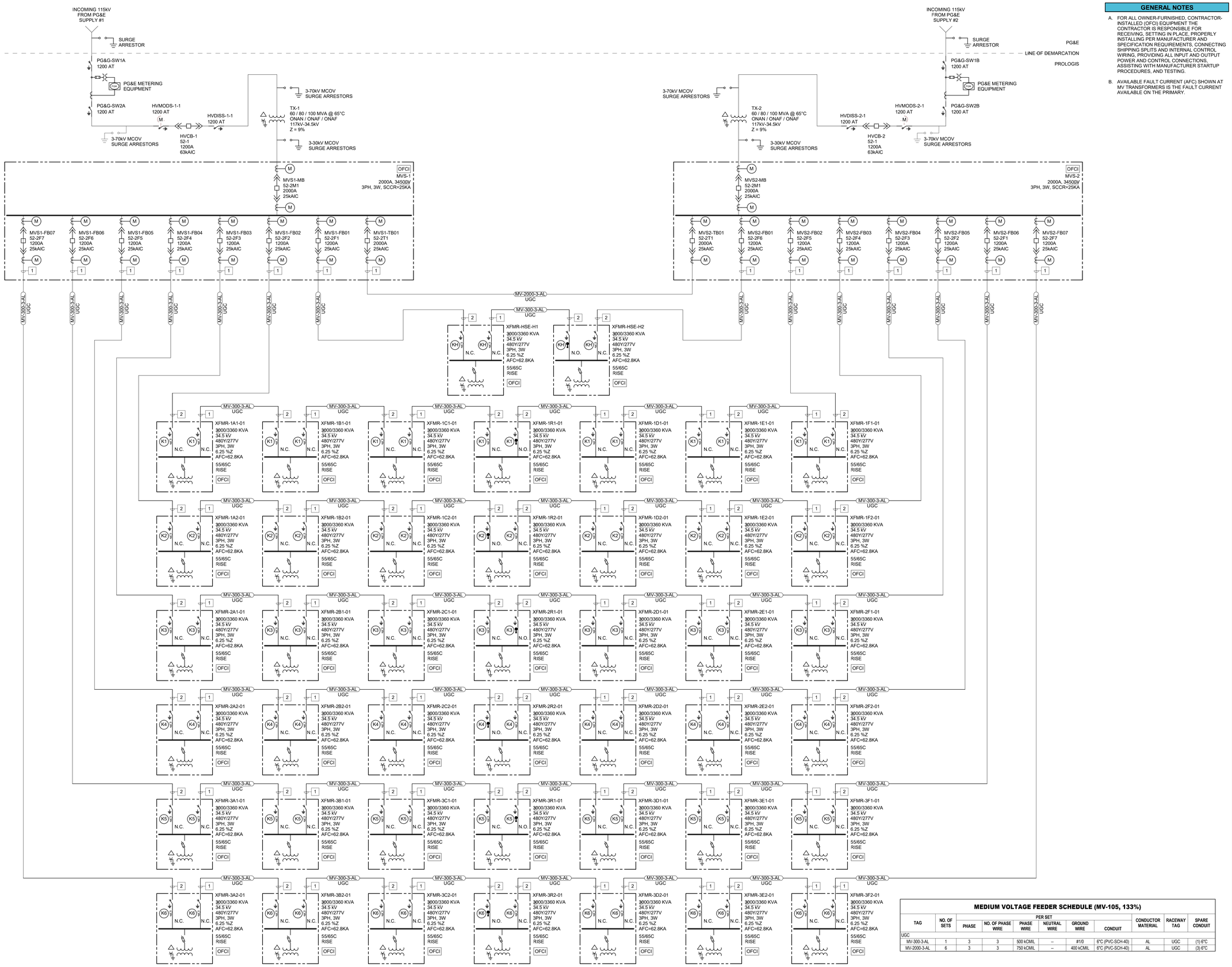
DOCKETED	
Docket Number:	26-SPPE-03
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TN #:	273215
Document Title:	Charcot Avenue Backup Generating Facility SPPE Application Appendices E F G - Part VII of XII
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
Submission Date:	10/26/2026 12:26:42 PM
Docketed Date:	10/26/2026

APPENDIX E

CADC Substation One-Line Diagram



GENERAL NOTES

A. FOR ALL OWNER-FURNISHED, CONTRACTOR-INSTALLED (OFCI) EQUIPMENT THE CONTRACTOR IS RESPONSIBLE FOR RECEIVING, SETTING IN PLACE, PROPERLY INSTALLING PER MANUFACTURER AND SPECIFICATION REQUIREMENTS, CONNECTING SHIPPING SPLITS AND INTERNAL CONTROL WIRING, PROVIDING ALL INPUT AND OUTPUT POWER AND CONTROL CONNECTIONS. ASSISTING WITH MANUFACTURER STARTUP PROCEDURES, AND TESTING.

B. AVAILABLE FAULT CURRENT (AFC) SHOWN AT MV TRANSFORMERS IS THE FAULT CURRENT AVAILABLE ON THE PRIMARY.

MEDIUM VOLTAGE FEEDER SCHEDULE (MV-105, 133%)

TAG	NO. OF SETS	PER SET						CONDUCTOR MATERIAL	RACEWAY TAG	SPARE CONDUIT
		PHASE	NO. OF PHASE WIRE	PHASE WIRE	NEUTRAL WIRE	GROUND WIRE	CONDUIT			
UGC										
MV-300-3-AL	1	3	3	500 kCMIL	--	#1/0	6"C (PVC-SCH-40)	AL	UGC	(1) 6"C
MV-2000-3-AL	6	3	3	750 kCMIL	--	400 kCMIL	6"C (PVC-SCH-40)	AL	UGC	(3) 6"C

OWNER
PROLOGIS
Pier 1, Bay 1
San Francisco, CA 94111
(415)394-9000

CONTRACTOR

ARCHITECT
SNHA A WOOLPERT COMPANY
130 East Randolph
Suite 3100
Chicago, IL 60601
312.633.2900

CIVIL
KIER+WRIGHT
3350 Scott Blvd.
Building 22
Santa Clara, CA 95054
(408) 727-6665

STRUCTURAL
Thornton Tomasetti
600 W Fulton
Suite 705
Chicago, IL 60661

MEP, FP, FA, TCOM
STRATEGIC MISSION CRITICAL
800 Route 146
Suite 165
Clifton Park, NY 12065

LANDSCAPE
siTe. landscape architecture
SITE LANDSCAPE ARCHITECTURE,
440 Cochrane Circle,
Morgan Hill, CA 95037

SEC, CTRL, AV

PROGRESS SET
NOT FOR CONSTRUCTION

NO.	DESCRIPTION	DATE
C	Entitlement Package Final Draft	2026.04.24
B	Entitlement Package Draft 2	2026.04.06
A	Entitlement Package Draft 1	2026.03.20

Charcot Data Center

326 Charcot Ave
San Jose, CA 95131

April 24, 2026

ELECTRICAL SINGLE-LINE - MEDIUM VOLTAGE SYSTEM

E01-01

SCALE: AS NOTED

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APPENDIX F

Air Quality and Greenhouse Gas Assessment

Appendix AQ1
Emissions Calculations and Support Data

Table AQ1-1 Emissions Estimates for Emergency Standby Generators

Use Area: Data Center Bldg (IT Power)

Engine Mfg:	**CAT**	# of Units:	42	Max # of Engines Tested per Day:	8	# Redundant Engines:	6
Model #:	**3516E HPD**			*(engines are not tested concurrently)*		Emer Ops Engines:	36

Fuel:	ULSD	**Engine Data**															***METRIC UNITs***
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Engine Outlet Temp, F**	**mmbtu/hr**	**Stk Flow, ACFM**	**Stack Vel, f/s**	**Stack Height, m**	**Stk Diam, m**	**Engine Outlet Temp, Kelvins**	**Stk Vel, m/s**	**NOx Startup lb/hr**
Fuel wt, lb/gal:	7.05	4393	3000	100	1800	204.3	63.5	28	901.9	27.99	22803	88.8786	19.3548	0.7112	756.43	27.0902	24.212
Btu/gal:	137000	3347	2250	75	1800	164.9	63.5	28	917.3	22.59	19421.7	75.6994	19.3548	0.7112	764.98	23.0732	18.447
Lbs S/1000 gal:	0.10575	2294	1500	50	1800	123.5	63.5	28	973.6	16.92	15244.3	59.4173	19.3548	0.7112	796.26	18.1104	12.644
Lbs SO2/1000 gal:	0.2115	1236	750	25	1800	65.1	63.5	28	915.3	8.92	7143.6	27.8434	19.3548	0.7112	763.87	8.4867	6.812
		590	300	10	1800	36	63.5	28	671.9	4.93	4545.1	17.7153	19.3548	0.7112	628.65	5.3996	3.252

EPA Tier: 4 — Fuel use values are the ISO consumption rates from the Performance Data, EM4716, 10/22/24

Control System: DOC (DPF) and SCR — Ammonia slip <= 10 ppm @ 15% O2

Turbocharged: Yes — Stack Exit Area (sq.ft) = 4.276057

Aftercooled: Yes

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.018	0.018	163.052
Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU adjusted EFs, 100% Load	2.50	2.60	0.22	0.005	0.018	0.018	163.052
0.5 hr Uncontrolled, Tier 2 Stds Efs, 100% Load, w/DPF	4.5	2.6	0.3				
0.5 hr Controlled, T4 Efs, 100% Load, w/DPF	0.5	2.6	0.14				

Diesel engine warm-up time is <= 30 minutes.

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.6	0.14	0.005	0.018	0.018	163.052
Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU adjusted EFs, 100% Load	2.50	2.6	0.14	0.005	0.018	0.018	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load** — *Redundant engines do NOT operate during emergency operations.*

Max Hourly Runtime: 1

Max Daily Runtime: 24

Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.842	25.181	1.356	0.048	0.174	0.174	na
lbs/day	116.219	604.341	32.541	1.162	4.184	4.184	na
TPY	0.242	1.259	0.068	0.002	0.009	0.009	228.2

36 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	174.33	906.51	48.81	1.74	6.28	6.28	na
lbs/day	4183.90	21756.29	1171.49	41.84	150.62	150.62	na
TPY	8.72	45.33	2.44	0.09	0.31	0.31	8214.62

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU adjusted EFs, 100% Load**

Max Hourly Runtime: 1

Max Daily Runtime: 1

Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	24.212	25.181	1.356	0.048	0.174	0.174	na
lbs/day	24.212	25.181	1.356	0.048	0.174	0.174	na
TPY	0.605	0.630	0.034	0.001	0.004	0.004	114.1

8 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	24.212	25.181	1.356	0.048	0.174	0.174	na
lbs/day	193.699	201.447	10.847	0.387	1.395	1.395	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	25.42	26.44	1.42	0.05	0.18	0.18	4791.86

BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	34.139	71.766	3.864	0.138	0.497	0.497	13006.5

Table AQ1-2 Emissions Estimates for Emergency Standby Generators

Use Area: Data Center Bldg (Admin Power)

Engine Mfg:	**CAT**	# of Units:	2	Max # of Engines Tested per Day:	2	# Redundant Engines:	0
Model #:	**3512C**			*(engines are not tested concurrently)*		Emer Ops Engines:	2
Fuel:	ULSD	**Engine Data**					

METRIC UNITs

		BHP	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Engine Outlet Temp, F**	**mmbtu/hr**	**Stk Flow, ACFM**	**Stack Vel, f/s**	**Stk Ht, m**	**Stk Diam, m**	**Engine Outlet Temp, Kelvins**	**Stk Vel, m/s**	**NOx Startup lb/hr**	**NOx Controlled lb/hr**
Fuel S, %wt:	0.0015																	
Fuel wt, lb/gal:	7.05	2206	1500	100	1800	101.3	63.5	18	756.6	13.88	11406.4	107.5784	19.3548	0.4572	675.71	32.7899	12.16	2.432
Btu/gal:	137000	1662	1125	75	1800	79.4	63.5	18	706.7	10.88	9595.7	90.5009	19.3548	0.4572	647.98	27.5847	9.16	1.832
Lbs S/1000 gal:	0.10575	1144	750	50	1800	56.2	63.5	18	696.7	7.70	7230.6	68.1947	19.3548	0.4572	642.43	20.7857	6.31	1.261
Lbs SO2/1000 gal:	0.2115	632	375	25	1800	32.8	63.5	18	664.9	4.49	4645.2	43.8108	19.3548	0.4572	624.76	13.3535	3.48	0.697
		312	150	10	1800	19.1	63.5	18	540.6	2.62	3244.5	30.6002	19.3548	0.4572	555.71	9.3269	1.72	0.344

Default SO2 EF: 0.005 g/bhp-hr

Fuel use values are the ISO consumption rates from the Performance Data, EM1898, 8/25/25.

EPA Tier: 2

Control System: DOC (DPF) and SCR Ammonia slip <= 10 ppm @ 15% O2

Turbocharged: Yes Stack Exit Area (sq.ft) = 1.767146

Aftercooled: Yes

Scenarios	**Emissions Factor Scenarios (all values in g/bhp-hr) NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.018	0.018	163.052
Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU Adjusted EFs, 100% Load	2.50	2.60	0.22	0.005	0.018	0.018	163.052
Weighted EF Input and Calculation Data							
0.5 hr Uncontrolled, Tier 2 Stds Efs, 100% Load, w/DPF	4.5	2.6	0.3				
0.5 hr Controlled, T4 Efs, 100% Load, w/DPF	0.5	2.6	0.14				

Diesel engine warm-up time is <= 30 minutes.

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr) NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.600	0.140	0.005	0.018	0.018	163.052
Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU Adjusted EFs, 100% Load	2.50	2.600	0.220	0.005	0.018	0.018	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Max Hourly Runtime: 1

Max Daily Runtime: 24

Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	2.432	12.645	0.681	0.024	0.088	0.088	na
lbs/day	58.361	303.478	16.341	0.584	2.101	2.101	na
TPY	0.122	0.632	0.034	0.001	0.004	0.004	113.1

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.86	25.29	1.36	0.05	0.18	0.18	na
lbs/day	116.72	606.96	32.68	1.17	4.20	4.20	na
TPY	0.24	1.26	0.07	0.002	0.009	0.009	226.29

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, T2/T4 SU Adjusted EFs, 100% Load**

Max Hourly Runtime: 1

Max Daily Runtime: 1

Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	12.159	12.645	1.070	0.024	0.088	0.088	na
lbs/day	12.159	12.645	1.070	0.024	0.088	0.088	na
TPY	0.304	0.316	0.027	0.0006	0.002	0.002	56.6

2 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	12.159	12.645	1.070	0.024	0.088	0.088	na
lbs/day	24.317	25.290	2.140	0.049	0.175	0.175	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	0.61	0.63	0.05	0.001	0.004	0.004	113.14

BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	0.851	1.897	0.122	0.004	0.013	0.013	339.4

Table AQ1-3 Fixed Roof Tank Emissions Estimates (Large Tanks)

Ref: (12) AP-42, Section 7.1, 11/2006

indicates input

Standing Storage Losses			*Comments*	Note
Type of organic liquid:	#2 ULS Diesel		21 Tanks (1 per engine stacked pair)	
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.05	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
~ Tank diameter, ft.	D	9	equivalent horizontal tank dimensions	
~ Tank height or length, ft.	H	21	equivalent horizontal tank dimensions	
~ Tank capacity, gals	Tc	10400	10400 gal capacity, but 10200 gal useable	
Avg vapor space height, ft.	Hv	4	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	254.47		
~Total tank volume, ft3	Tv	1390	Based on equivalent tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO region	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.05	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	20430	2 engines per Tank (at 50 hrs/yr at 100% load)	
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9986		
# of similar tanks		21	1 tank per engine pair	2
Standing Loss	**Ls**	**0.57**	**lbs/yr (breathing and standing losses)**	

Working Losses			
Vapor molecular weight:	Mw	130	
Vapor pressure, psia @ 70F	Vp	0.0065	
Throughput, bbl/yr	Q	486.4	
Turnover factor	Kn	1	
Working loss product factor	Kp	1	
Working Loss	**Lw**	**0.41**	**lbs/yr (tank filling and withdrawal losses)**
	Ls+Lw	**0.98**	
Engineering Uncertainty Factor		1.2	
Uncontrolled Total Tank Losses		**1.17**	**lbs/yr each tank**
		24.61	**lbs/yr all tanks**
Control System ?	No	0	control fraction
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems		3
Controlled Total Tank Losses		**1.17**	**lbs/yr each tank**
		24.61	**lbs/yr all tanks**
		0.012	**TPY all tanks**

Note 1 - tanks are located inside the engine enclosure and not subject to solar absorbance
Note 2 - thruput based on max hourly fuel consumption for M&R Testing only.
Note 3 - these tanks are exempt from SCAQMD permits.

Air Toxics Emissions - Source: SJVUAPCD AB2588 Air Toxics Profiles (Profile 23 Diesel Fuel Storage)

Toxic Pollutant	EF, lb/lb VOC	Emissions, lbs/yr (all tanks)	lbs/hr
Benzene	0.00088	0.0217	2.47216E-06
Toluene	0.00482	0.1186	1.35407E-05
Xylenes	0.0042	0.1034	1.17989E-05

Table AQ1-4 Fixed Roof Tank Emissions Estimates (Small Tanks)

Ref: (12) AP-42, Section 7.1, 11/2006

indicates input

Standing Storage Losses			*Comments*	Note
Type of organic liquid:	#2 ULS Diesel		2 Tanks for CAT 3512C Engines	
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.05	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
~ Tank diameter, ft.	D	6	equivalent horizontal tank dimensions	
~ Tank height or length, ft.	H	14	equivalent horizontal tank dimensions	
~ Tank capacity, gals	Tc	2500	2900 gal capacity, 2500 gal useable	
Avg vapor space height, ft.	Hv	3	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	84.82		
~Total tank volume, ft3	Tv	334	Based on equivalent tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO region	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.05	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	5065	1 engine per Tank (at 50 hrs/yr at 100% load)	
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9990		
# of similar tanks		2	1 tank per engine	2
Standing Loss	**Ls**	**0.19**	**lbs/yr (breathing and standing losses)**	

Working Losses			
Vapor molecular weight:	Mw	130	
Vapor pressure, psia @ 70F	Vp	0.0065	
Throughput, bbl/yr	Q	120.6	
Turnover factor	Kn	1	
Working loss product factor	Kp	1	
Working Loss	**Lw**	**0.10**	**lbs/yr (tank filling and withdrawal losses)**
	Ls+Lw	**0.29**	
Engineering Uncertainty Factor		1.2	
Uncontrolled Total Tank Losses		**0.35**	**lbs/yr each tank**
		0.70	**lbs/yr all tanks**
Control System ?	No	0	control fraction
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems		3
Controlled Total Tank Losses		**0.35**	**lbs/yr each tank**
		0.70	**lbs/yr all tanks**
		0.0003	**TPY all tanks**

Note 1 - tanks are located inside the engine enmclosure and not subject to solar absorbance
Note 2 - thruput based on max hourly fuel consumption for M&R Testing only.
Note 3 - these tanks are exempt from SCAQMD permits.

Air Toxics Emissions - Source: SJVUAPCD AB2588 Air Toxics Profiles (Profile 23 Diesel Fuel Storage)

Toxic Pollutant	EF, lb/lb VOC	Emissions, lbs/yr (all tanks)	lbs/hr
Benzene	0.00088	0.0006	7.00326E-08
Toluene	0.00482	0.0034	3.83588E-07
Xylenes	0.0042	0.0029	3.34246E-07

Table AQ1-5 Fixed Roof Tank Emissions Estimates (Day Tanks)

Ref: (12) AP-42, Section 7.1, 11/2006 and 6/2020.

indicates input

Standing Storage Losses			*Comments*	Note
Type of organic liquid:	#2 ULS Diesel		21 Day tanks for 3516E HPD Engines	
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.05	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
~ Tank diameter, ft.	D	4	equivalent horizontal tank dimensions	
~ Tank height or length, ft.	H	5.5	equivalent horizontal tank dimensions	
~ Tank capacity, gals	Tc	500		
Avg vapor space height, ft.	Hv	1	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	12.57		
Total tank volume, ft3	Tv	67	Based on equivalent tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517 for LA area	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.17	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	10215	per Tank (at 50 hrs/yr at 100% load)	
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9997		
# of similar tanks		21	1 per engine pair for upper unit	2
Standing Loss	**Ls**	**0.03**	**lbs/yr (breathing and standing losses)**	

Working Losses			
Vapor molecular weight:	Mw	130	
Vapor pressure, psia @ 70F	Vp	0.0065	
Throughput, bbl/yr	Q	243.2	
Turnover factor	Kn	1	
Working loss product factor	Kp	1	
Working Loss	**Lw**	**0.21**	**lbs/yr (tank filling and withdrawal losses)**
	Ls+Lw	**0.23**	
Engineering Uncertainty Factor		1.2	
Uncontrolled Total Tank Losses		**0.28**	**lbs/yr each tank**
		5.88	**lbs/yr all tanks**
Control System ?	No	0	control fraction
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems		3
Controlled Total Tank Losses		**0.28**	**lbs/yr each tank**
		5.88	**lbs/yr all tanks**
		2.942E-03	**TPY all tanks**

Note 1 - paint factor for new tanks located above ground
Note 2 - thruput based on max hourly fuel consumption for M&R Testing only.
Note 3 - these tanks are exempt from SCAQMD permits.

Air Toxics Emissions - Source: SJVUAPCD AB2588 Air Toxics Profiles (Profile 23 Diesel Fuel Storage)

Toxic Pollutant	EF, lb/lb VOC	Emissions, lbs/yr (all tanks)	Emissions, TPY	lbs/hr
Benzene	0.00088	0.0052	2.58874E-05	5.91E-07
Toluene	0.00482	0.0284	0.000141792	3.24E-06
Xylenes	0.0042	0.0247	0.000123553	2.82E-06

Table AQ1-6 Refrigerant Use Emissions Estimation

Parameter	*Value*	*Comments*
Site ID:	Charcot Ave Data Center	
System ID:	TMA 4D2100B C32 13 1W	
Data Sources:	Mfg	Brochure: REF.BOX Api v 3.2.1 9/3/2025
Refrigerant ID:	R513A	
System Charge, lbs:	1340.4	
# of Similar Systems:	42	Current Design Estimate
Total Charge, lbs:	56296.8	
Estimated Leak Rate:	5	% wt/year
	0.05	Leak rate fraction
Annual Emissions, Lbs:	2814.84	Based on Leak Rate
Annual Emissions, tons:	1.40742	Based on Leak Rate
GWP Value:	629.5	
CO2e, Short tons/yr:	885.971	
CO2e Metric tons/yr:	803.602	
System ID:	AAON - RTU-2 DOAS	
Data Sources:	Mfg	Brochure: RN-020-3-0-GJBD-AA-A1-000-A, 1/27/26.
Refrigerant ID:	R454B	
System Charge, lbs:	59.92	Liq density = 0.985 Kg/l, 933 oz./unit charge
# of Similar Systems:	12	Current Design Estimate
Total Charge, lbs:	719.04	
Estimated Leak Rate:	5	% wt/year
	0.05	Leak rate fraction
Annual Emissions, Lbs:	35.952	Based on Leak Rate
Annual Emissions, tons:	0.01798	Based on Leak Rate
GWP Value:	466	
CO2e, Short tons/yr:	8.377	
CO2e Metric tons/yr:	7.598	
Metric tons/Yr:	811.2	Total CO2e Emissions from Refrigerant Use

Table AQ1-7 SF6 Emissions Estimate for Site Electrical Breakers

Site ID	# Breakers	Lbs/SF6 Breaker	Lbs/SF6 on Site	Leak Rate Fraction	Annual Loss, lbs/yr	GWP Factor	CO2e, Lbs Lbs/yr	CO2e Short tons/yr	CO2e Metric tons/yr
Charcot Ave.	2	125	250	0.005	1.25	23900	29875	14.9	13.5
	0	0	0	0	0	0	0	0.0	0.0
	0	0	0	0	0	0	0	0.0	0.0
	0	0	0	0	0	0	0	0.0	0.0
	0	0	0	0	0	0	0	0.0	0.0
	0	0	0	0	0	0	0	0.0	0.0
	0	0	0	0	0	0	0	0.0	0.0

Assumed leak rate is 0.5%, which represents BACT
Breaker data is a preliminary design estimate.

Table AQ1-8 Ammonia Slip PPM to Lbs/Hr Calculation

Engine ID:	**CAT 3516E HPD**					
Load Case, %:	100					
ACFM to DSCFM						
Stack ACFM	22803		CF			
Stack Temp, F	901.9		0.3891622			
Stack % H2O	8.8	0.0880	0.9120	Note 1		
DSCFM	**8093.1**					
					STP, F	**ft3/lb-mol**
PPM to Lb/Hr Conversion					32	359.05
DSCFM:	8,093.1				60	370.46
Stk % O2:	8.9	Note 1			68	385.40
% O2 CF:	0.492				70	386.76
Ft^3/lb-mol @ STP:	386.76	= factor:	3.87E+08			
			NH3			
Mol Wt.:			17.01			
ppm @ 15% O2:	BACT Limit		10			
ppm @ stk % O2:			20.3			
Calculated Emissions at Stack % O2, lbs/hr:			**NH3** **0.434**			

Note 1: Derived from Performance Data tables in Appendix AQ2.

Engine ID:	**CAT 3512C**					
Load Case, %:	100					
ACFM to DSCFM						
Stack ACFM	11406.4		CF			
Stack Temp, F	756.6		0.435640309			
Stack % H2O	9.15	0.0915	0.9085	Note 1		
DSCFM	**4514.4**					
					STP, F	**ft3/lb-mol**
PPM to Lb/Hr Conversion					32	359.05
DSCFM:	4,514.4				60	370.46
Stk % O2:	10.9	Note 1			68	385.40
% O2 CF:	0.590				70	386.76
Ft^3/lb-mol @ STP:	386.76	= factor:	3.87E+08			
			NH3			
Mol Wt.:			17.01			
ppm @ 15% O2:	BACT Limit		10			
ppm @ stk % O2:			16.9			
Calculated Emissions at Stack % O2, lbs/hr:			**NH3** **0.202**			

Note 1: Derived from Performance Data tables in Appendix AQ2.

Appendix AQ2
Equipment Specifications and Emissions Control System Information

Cat® 3516E

High Power Density (HPD) Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in^3)	78.1 (4766)
Compression Ratio	13.9:1
Aspiration	TA
Fuel System	MEUI
Governor Type	ADEM™ A5

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Emissions Performance
3000 (3750)	3000 (3750)	2725 (3406)	U.S. EPA Certified for Emergency Stationary Applications (Tier 2) and meets Northern Virginia NO_x requirements

Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency (Tier 2) and Northern Virginia NO_x requirements
- Reliable performance proven in thousands of applications worldwide
- Certified alternative fuels including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD) and Hydrotreated Renewable Diesel (HRD) which meet EN 15940 or ASTM D975 can be used or blended with EN 590 diesel

Generator Set Package

- Accepts 100% block load in one step
- Meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

Cat Energy Control System (ECS)

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements
- Graphical touchscreen display
- Easily upgradeable

Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Standard and Optional Equipment

Engine

Air Cleaner
- ■ Dual Element
- ❑ Service Indicator

Muffler
- ❑ Industrial grade (15 dB)
- ❑ Critical grade (25 dB)
- ❑ Hospital grade (35 dB)

Starting
- ❑ Standard batteries
- ■ Oversized batteries
- ■ Dual electric starting motors
- ❑ Air starter(s)
- ■ Jacket water heater

Alternator

Output voltage
- ■ 480V ❑ 12470V
- ❑ 600V ❑ 13200V
- ❑ 4160V ❑ 13800V

Temperature Rise (over 40°C ambient)
- ❑ 150°C
- ❑ 125°C/130°C

Winding type
- ❑ Random wound
- ■ Form wound

Excitation
- ❑ Internal excitation (IE)
- ■ Permanent magnet (PM)

Attachments
- ■ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

Power Termination

Type
- ■ Bus bar
- ❑ Circuit breaker
- ❑ 5000A ❑ UL
- ❑ 3-pole ❑ 4-pole
- ❑ Manually operated
- ❑ Electrically operated

Trip Unit
- ❑ LSI ❑ LSI-G
- ❑ LSIG-P

Control System

Controller
- ■ Cat ECS 100
- ❑ Cat ECS 200
- ❑ EMCP 4.4

Attachments
- ❑ Local annunciator module
- ❑ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

Charging

- ❑ Battery charger – 10A
- ❑ Battery charger – 20A
- ❑ Battery charger – 35A

Vibration Isolators

- ❑ Spring
- ❑ Seismic rated

Cat Connect

Connectivity
- ■ Ethernet
- ❑ Cellular

Extended Service Options

Terms
- ❑ 2 year (prime)
- ❑ 3 year
- ❑ 5 year
- ❑ 10 year

Coverage
- ❑ Silver
- ❑ Gold
- ❑ Platinum
- ❑ Platinum Plus

Ancillary Equipment

- ❑ Automatic transfer switch (ATS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

Certifications

- ■ ULC 2200 Listed
- ❑ IBC seismic certification

Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

Package Performance

Performance	Standby		Mission Critical		Prime	
Engine Speed	1800 rpm		1800 rpm		1800 rpm	
Frequency	60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	3000 ekW		3000 ekW		2725 ekW	
Gen set power rating with fan @ 0.8 power factor	3750 kVA		3750 kVA		3406 kVA	
Emissions	Tier 2 (EPA ESE)		Tier 2 (EPA ESE)		Tier 2 (EPA ESE)	
Performance number	EM6283-00		EM6285-01		EM6287-01	
Fuel Consumption						
100% load with fan – L/hr (gal/hr)	776.0	(205.0)	776.0	(205.0)	711.1	(187.9)
75% load with fan – L/hr (gal/hr)	624.2	(164.9)	624.2	(164.9)	581.6	(153.7)
50% load with fan – L/hr (gal/hr)	467.5	(123.5)	467.5	(123.5)	438.1	(115.7)
25% load with fan – L/hr (gal/hr)	246.4	(65.1)	246.4	(65.1)	229.2	(60.6)
Cooling System						
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	3476	(122753)	3476	(122753)	3476	(122753)
Engine coolant capacity – L (gal)	179.0	(47.3)	179.0	(47.3)	179.0	(47.3)
Radiator coolant capacity – L (gal)	255.0	(67.4)	255.0	(67.4)	255.0	(67.4)
Total coolant capacity – L (gal)	434.0	(114.7)	434.0	(114.7)	434.0	(114.7)
Inlet Air						
Combustion air inlet flow rate – m^3/min (cfm)	258.7	(9133.9)	258.7	(9133.9)	230.5	(8137.8)
Exhaust System						
Exhaust stack gas temperature – °C (°F)	483.9	(903.0)	483.9	(903.0)	484.4	(904.0)
Exhaust gas flow rate – m^3/min (cfm)	678.9	(23970.8)	678.9	(23970.8)	600.2	(21194.7)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	7.0	(28.1)	7.0	(28.1)	7.0	(28.1)
Heat Rejection						
Heat rejection to jacket water – kW (Btu/min)	917	(52144)	917	(52144)	854	(48592)
Heat rejection to exhaust (total) – kW (Btu/min)	3091	(175769)	3091	(175769)	2875	(163492)
Heat rejection to aftercooler – kW (Btu/min)	944	(53683)	944	(53683)	827	(47047)
Heat rejection to atmosphere from engine – kW (Btu/min)	158	(8993)	158	(8993)	154	(8766)
Heat rejection from alternator – kW (Btu/min)	119	(6739)	119	(6739)	108	(6119)
Emissions* (Nominal) - Full Load						
NO_x mg/Nm^3 (g/hp-h)	2404.9	(5.13)	2404.9	(5.13)	2312.7	(5.01)
CO mg/Nm^3 (g/hp-h)	257.5	(0.55)	257.5	(0.55)	405.3	(0.89)
HC mg/Nm^3 (g/hp-h)	17.6	(0.04)	17.6	(0.04)	15.0	(0.04)
PM mg/Nm^3 (g/hp-h)	Not Available		Not Available		Not Available	
Emissions* (Potential Site Variation) - Full Load						
NO_x mg/Nm^3 (g/hp-h)	2885.9	(6.15)	2885.9	(6.15)	2775.2	(6.01)
CO mg/Nm^3 (g/hp-h)	463.5	(0.99)	463.5	(0.99)	729.6	(1.60)
HC mg/Nm^3 (g/hp-h)	23.4	(0.06)	23.4	(0.06)	19.9	(0.05)
PM mg/Nm^3 (g/hp-h)	Not Available		Not Available		Not Available	

**mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer for further information*

PERFORMANCE DATA [EM4716]

OCTOBER 22, 2024

For Help Desk Phone Numbers Click here

Perf No: EM4716 **Change Level:** 02

General | Heat Rejection | Emissions | Regulatory | Altitude Derate | Cross Reference | Supplementary Data | Perf Param Ref

View PDF

SALES MODEL:	3516E	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
MACHINE SALES MODEL:		**HERTZ:**	60
ENGINE POWER (BHP):	4,393	**FAN POWER (HP):**	154.2
GEN POWER WITH FAN (EKW):	3,000.0	**ASPIRATION:**	TA
COMPRESSION RATIO:	13.9	**AFTERCOOLER TYPE:**	ATAAC
RATING LEVEL:	STANDBY	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC, ATAAC
PUMP QUANTITY:	1	**INLET MANIFOLD AIR TEMP (F):**	122
FUEL TYPE:	DIESEL	**JACKET WATER TEMP (F):**	219.2
MANIFOLD TYPE:	DRY	**TURBO CONFIGURATION:**	PARALLEL
GOVERNOR TYPE:	ADEM5	**TURBO QUANTITY:**	4
ELECTRONICS TYPE:	ADEM5	**TURBOCHARGER MODEL:**	TPX44-H32-CT70-CA50-TT70-TA80
IGNITION TYPE:	CI	**CERTIFICATION YEAR:**	2020
INJECTOR TYPE:	MEUI-C	**CRANKCASE BLOWBY RATE (FT3/HR):**	4,390.2
FUEL INJECTOR:	5816980	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	17.2
UNIT INJECTOR TIMING (IN):	0.88	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,539.4
REF EXH STACK DIAMETER (IN):	12		
MAX OPERATING ALTITUDE (FT):	6,562		

INDUSTRY	SUB INDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET

General Performance Data Top

Note(s)
THE INLET MANIFOLD AIR TEMP LISTED IN THE HEADER, AND IN THE GENERAL PERFORMANCE DATA, IS THE AVERAGE INLET MANIFOLD TEMP FRONT TO REAR ON THE ENGINE.
THIS STANDBY RATING IS FOR A STANDBY ONLY ENGINE ARRANGEMENT. RERATING THE ENGINE TO A STANDARD PRIME OR CONTINUOUS RATING IS NOT PERMITTED.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/EKW-HR	LB/EKW-HR
3,000.0	100	4,393	406	0.336	0.330	208.2	204.3	0.492	0.483
2,700.0	90	3,976	367	0.340	0.333	190.3	186.7	0.500	0.491
2,400.0	80	3,557	328	0.349	0.343	175.1	171.7	0.517	0.508
2,250.0	75	3,347	309	0.356	0.349	168.1	164.9	0.530	0.520
2,100.0	70	3,137	290	0.362	0.355	160.2	157.1	0.541	0.531
1,800.0	60	2,716	251	0.370	0.363	141.7	139.0	0.559	0.548
1,500.0	50	2,294	212	0.389	0.382	125.9	123.5	0.595	0.584
1,200.0	40	1,872	173	0.406	0.398	107.2	105.2	0.634	0.622
900.0	30	1,449	134	0.401	0.393	81.8	80.3	0.645	0.633
750.0	25	1,236	114	0.381	0.374	66.4	65.1	0.628	0.616
600.0	20	1,022	94	0.392	0.384	56.4	55.4	0.667	0.655
300.0	10	590	55	0.441	0.433	36.7	36.0	0.869	0.852

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
3,000.0	100	4,393	91.7	119.6	1,263.2	61.5	901.9	100	451.3
2,700.0	90	3,976	82.2	119.3	1,247.8	54.4	904.4	90	423.5
2,400.0	80	3,557	74.9	118.9	1,242.3	48.9	913.3	82	403.8
2,250.0	75	3,347	72.1	119.0	1,240.1	46.9	917.3	79	395.9
2,100.0	70	3,137	67.8	119.3	1,240.0	43.8	925.8	74	384.0
1,800.0	60	2,716	56.0	120.2	1,245.9	35.5	953.4	62	348.0
1,500.0	50	2,294	47.1	118.6	1,248.2	29.9	973.6	52	318.8
1,200.0	40	1,872	33.9	114.2	1,255.9	21.9	1,002.7	38	269.7
900.0	30	1,449	16.7	112.4	1,203.6	12.3	984.1	20	191.4
750.0	25	1,236	8.9	110.5	1,091.8	8.1	915.3	11	150.2
600.0	20	1,022	5.8	108.3	1,004.5	6.6	847.7	8	133.3
300.0	10	590	0.9	104.2	780.2	4.2	671.9	3	108.0

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
3,000.0	100	4,393	8,689.8	22,803.0	37,643.0	39,120.1	8,234.2	7,508.7
2,700.0	90	3,976	8,100.6	21,092.5	34,770.1	36,119.8	7,602.7	6,941.1
2,400.0	80	3,557	7,618.2	19,872.8	32,572.6	33,813.7	7,116.5	6,503.0
2,250.0	75	3,347	7,434.9	19,421.7	31,724.7	32,917.4	6,934.8	6,343.9
2,100.0	70	3,137	7,140.4	18,713.3	30,413.9	31,551.3	6,641.0	6,078.0
1,800.0	60	2,716	6,316.6	16,737.0	26,667.4	27,671.7	5,823.4	5,324.6
1,500.0	50	2,294	5,698.5	15,244.3	23,951.1	24,844.2	5,229.6	4,787.6
1,200.0	40	1,872	4,748.1	12,895.5	19,832.8	20,593.5	4,335.7	3,959.7
900.0	30	1,449	3,421.3	9,198.1	14,210.7	14,791.0	3,132.4	2,847.7
750.0	25	1,236	2,813.2	7,143.6	11,655.6	12,126.4	2,554.4	2,332.7

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
600.0	20	1,022	2,588.4	6,214.7	10,705.5	11,105.8	2,337.3	2,139.1
300.0	10	590	2,189.5	4,545.1	9,126.5	9,387.3	1,974.8	1,838.2

Heat Rejection Data Top

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
3,000.0	100	4,393	52,144	8,993	175,769	91,810	23,854	53,683	186,315	447,861	477,084
2,700.0	90	3,976	48,348	8,755	162,671	85,129	21,755	46,560	168,590	408,442	435,094
2,400.0	80	3,557	45,188	8,663	152,310	80,972	19,852	39,923	150,835	372,717	397,037
2,250.0	75	3,347	43,721	8,625	147,003	79,360	18,929	37,161	141,942	355,388	378,578
2,100.0	70	3,137	42,430	8,593	141,837	77,229	18,002	34,024	133,031	337,986	360,040
1,800.0	60	2,716	40,153	8,591	130,286	71,150	16,087	27,442	115,184	302,034	321,742
1,500.0	50	2,294	37,137	8,662	118,761	66,069	14,137	20,821	97,288	265,422	282,742

Emissions Data Top

Units Filter All Units

Note(s)
PARTICULATE EMISSIONS WERE NOT MEASURED FOR THIS RATING. PUBLISHED PM DATA IS ESTIMATED FROM MEASURED SMOKE METER DATA.

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER PERCENT LOAD		EKW BHP %	3,000.0 4,393 100	2,250.0 3,347 75	1,500.0 2,294 50	750.0 1,236 25	300.0 590 10
TOTAL NOX (AS NO2)		G/HR	24,589	12,160	6,934	8,735	6,302
TOTAL CO		G/HR	2,899	2,470	1,673	2,077	1,535
TOTAL HC		G/HR	190	142	118	84	160
TOTAL CO2		KG/HR	2,097	1,691	1,268	673	371
PART MATTER		G/HR	200.9	249.8	229.1	153.7	16.6
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,610.4	1,597.8	1,214.4	2,955.6	3,548.5
TOTAL CO	(CORR 5% O2)	MG/NM3	305.9	319.2	290.7	686.3	917.4
TOTAL HC	(CORR 5% O2)	MG/NM3	17.4	16.0	17.7	24.0	84.5
PART MATTER	(CORR 5% O2)	MG/NM3	17.6	27.2	33.4	41.1	11.3
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	968.6	592.9	450.6	1,096.7	1,316.7
TOTAL CO	(CORR 15% O2)	MG/NM3	113.5	118.5	107.9	254.7	340.4
TOTAL HC	(CORR 15% O2)	MG/NM3	6.4	5.9	6.6	8.9	31.4
PART MATTER	(CORR 15% O2)	MG/NM3	6.5	10.1	12.4	15.3	4.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,272	778	592	1,440	1,728
TOTAL CO	(CORR 5% O2)	PPM	245	255	233	549	734
TOTAL HC	(CORR 5% O2)	PPM	32	30	33	45	158
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	472	289	219	534	641
TOTAL CO	(CORR 15% O2)	PPM	91	95	86	204	272
TOTAL HC	(CORR 15% O2)	PPM	12	11	12	17	59
TOTAL NOX (AS NO2)		G/HP-HR	5.63	3.65	3.03	7.07	10.68
TOTAL CO		G/HP-HR	0.66	0.74	0.73	1.68	2.60
TOTAL HC		G/HP-HR	0.04	0.04	0.05	0.07	0.27
PART MATTER		G/HP-HR	0.05	0.07	0.10	0.12	0.03
TOTAL NOX (AS NO2)		G/KW-HR	7.66	4.96	4.12	9.61	14.53
TOTAL CO		G/KW-HR	0.90	1.01	0.99	2.29	3.54
TOTAL HC		G/KW-HR	0.06	0.06	0.07	0.09	0.37
PART MATTER		G/KW-HR	0.06	0.10	0.14	0.17	0.04
TOTAL NOX (AS NO2)		LB/HR	54.21	26.81	15.29	19.26	13.89
TOTAL CO		LB/HR	6.39	5.44	3.69	4.58	3.38
TOTAL HC		LB/HR	0.42	0.31	0.26	0.18	0.35
TOTAL CO2		LB/HR	4,623	3,728	2,794	1,484	819
PART MATTER		LB/HR	0.44	0.55	0.51	0.34	0.04
OXYGEN IN EXH		%	8.9	9.4	9.5	8.5	12.0
DRY SMOKE OPACITY		%	2.0	2.6	2.9	4.3	0.2
BOSCH SMOKE NUMBER			0.86	0.96	1.02	1.16	0.70

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER PERCENT LOAD		EKW BHP %	3,000.0 4,393 100	2,250.0 3,347 75	1,500.0 2,294 50	750.0 1,236 25	300.0 590 10
TOTAL NOX (AS NO2)		G/HR	29,507	14,592	8,321	10,482	7,562
TOTAL CO		G/HR	5,219	4,446	3,012	3,738	2,763
TOTAL HC		G/HR	253	188	157	111	213
PART MATTER		G/HR	281.2	349.8	320.7	215.1	23.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,132.5	1,917.4	1,457.3	3,546.7	4,258.2
TOTAL CO	(CORR 5% O2)	MG/NM3	550.6	574.6	523.3	1,235.4	1,651.3
TOTAL HC	(CORR 5% O2)	MG/NM3	23.1	21.3	23.6	31.9	112.4
PART MATTER	(CORR 5% O2)	MG/NM3	24.6	38.1	46.7	57.6	15.8
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	1,162.4	711.5	540.8	1,316.1	1,580.1
TOTAL CO	(CORR 15% O2)	MG/NM3	204.3	213.2	194.2	458.4	612.8
TOTAL HC	(CORR 15% O2)	MG/NM3	8.6	7.9	8.8	11.8	41.7
PART MATTER	(CORR 15% O2)	MG/NM3	9.1	14.1	17.3	21.4	5.9
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,526	934	710	1,728	2,074
TOTAL CO	(CORR 5% O2)	PPM	441	460	419	988	1,321
TOTAL HC	(CORR 5% O2)	PPM	43	40	44	60	210
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	566	347	263	641	770
TOTAL CO	(CORR 15% O2)	PPM	163	171	155	367	490
TOTAL HC	(CORR 15% O2)	PPM	16	15	16	22	78
TOTAL NOX (AS NO2)		G/HP-HR	6.76	4.38	3.64	8.49	12.82
TOTAL CO		G/HP-HR	1.20	1.33	1.32	3.03	4.68
TOTAL HC		G/HP-HR	0.06	0.06	0.07	0.09	0.36
PART MATTER		G/HP-HR	0.06	0.10	0.14	0.17	0.04
TOTAL NOX (AS NO2)		G/KW-HR	9.19	5.95	4.94	11.54	17.43
TOTAL CO		G/KW-HR	1.63	1.81	1.79	4.11	6.37
TOTAL HC		G/KW-HR	0.08	0.08	0.09	0.12	0.49
PART MATTER		G/KW-HR	0.09	0.14	0.19	0.24	0.05
TOTAL NOX (AS NO2)		LB/HR	65.05	32.17	18.34	23.11	16.67
TOTAL CO		LB/HR	11.51	9.80	6.64	8.24	6.09
TOTAL HC		LB/HR	0.56	0.42	0.35	0.25	0.47
PART MATTER		LB/HR	0.62	0.77	0.71	0.47	0.05

Regulatory Information Top

EPA EMERGENCY STATIONARY	2011 - -----			
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.				
Locality	**Agency**	**Regulation**	**Tier/Stage**	**Max Limits - G/BKW - HR**
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data Top

Note(s)

A BLANK IN THE ALTITUDE DERATE TABLE SIGNIFIES THAT NO RATING IS AVAILABLE AT THAT SPECIFIED ALTITUDE AND AMBIENT TEMPERATURE.

THE TEMPERATURES LISTED IN THE CHART ARE AMBIENT TEMPERATURES. THE FOLLOWING DERATE CHART WAS CALCULATED ASSUMING A 5 DEG C RISE IN AIR TEMPERATURE BETWEEN AMBIENT AND THE TURBOCHARGER INLET.

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	1,927		4,393
1,000	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	1,860		4,393
2,000	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,304			4,393
3,000	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,313	2,786			4,393
4,000	4,393	4,393	4,393	4,393	4,393	4,393	4,393	4,355	4,037	1,625			4,393
5,000	4,393	4,393	4,393	4,393	4,393	4,383	4,334	4,221	3,517				4,393
6,000	4,393	4,393	4,393	4,356	4,307	4,246	4,183	4,064	2,023				4,393
7,000	4,393	4,380	4,306	4,226	4,160	4,072	3,968	3,778					4,378
8,000	4,347	4,247	4,153	4,051	3,974	3,836	3,573	3,093					4,274
9,000	4,203	4,068	3,954	3,831	3,738	3,550	3,208	2,621					4,152
10,000	3,990	3,831	3,691	3,541	3,442	3,250	2,968	2,196					3,986
11,000	3,755	3,560	3,390	3,239	3,162	3,018	2,762	1,678					3,815
12,000	3,413	3,252	3,123	3,015	2,940	2,762	2,300	1,104					3,539
13,000	3,070	2,977	2,897	2,829	2,750	2,477	1,702						3,198
14,000	2,754	2,728	2,691	2,660	2,553	2,240							2,841
15,000	2,454	2,461	2,285	2,143	2,057	1,713							2,523

Cross Reference Top

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
5643811	LL2327	5577462	PG296	-	ZNL00001	

Supplementary Data Top

Type	Classification	Performance Number
ALTITUDE DATA	HIGH RESOLUTION	EM5585

Performance Parameter Reference Top

Parameters Reference: DM9600 - 15

PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION: Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS: Power +/- 3% Torque +/- 3% Exhaust stack temperature +/- 8% Inlet airflow +/- 5% Intake manifold pressure-gage +/- 10% Exhaust flow +/- 6% Specific fuel consumption +/- 3% Specific fuel consumption (C7-C18) +/- 4% Fuel rate +/- 5% Specific DEF consumption +/- 3% DEF rate +/- 5% Heat rejection +/- 5% Heat rejection exhaust only +/- 10% Heat rejection CEM only +/- 10%
Heat Rejection values based on using treated water.
Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
On 3500 and C175 engines, at speeds below Peak Torque these values are provided for reference only, and may not meet the tolerance listed.
These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS: Heat rejection +/- 10% Heat rejection to Atmosphere +/- 50% Heat rejection to Lube Oil +/- 20% Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS: Torque +/- 0.5% Speed +/- 0.2% Fuel flow +/- 1.0% Temperature +/- 2.0 C degrees Intake manifold pressure +/- 0.1 kPa
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR FOR 3500 ENGINES AND SMALLER SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.
FOR 3600 ENGINES Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL DIESEL Reference fuel is #2 distillate diesel with a 35API gravity; A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 15 deg C (59 deg F), where the density is 850 G/Liter (7.0936 Lbs/Gal).
GAS Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.
Standard temperature values versus altitude could be seen on TM2001.
When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.
Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.
Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.
Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS: Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

WET & DRY EXHAUST/EMISSIONS DESCRIPTION: Wet - Total exhaust flow or concentration of total exhaust flow Dry - Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

EMISSIONS DEFINITIONS: Emissions : DM1176

EMISSION CYCLE DEFINITIONS
1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS: Diesel Circuit Type and HHV Balance : DM9500

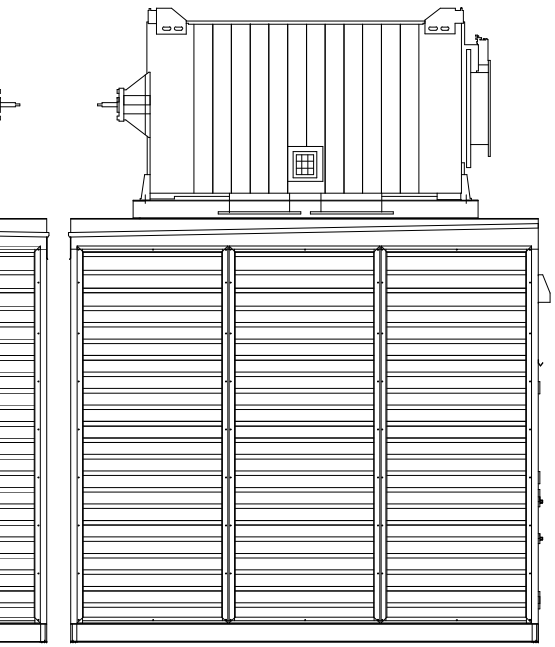
HIGH DISPLACEMENT (HD) DEFINITIONS: 3500: EM1500

RATING DEFINITIONS: Agriculture : TM6008
Fire Pump : TM6009
Generator Set : TM6035
Generator (Gas) : TM6041
Industrial Diesel : TM6010
Industrial (Gas) : TM6040
Irrigation : TM5749
Locomotive : TM6037
Marine Auxiliary : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039
On-Highway Truck : TM6038

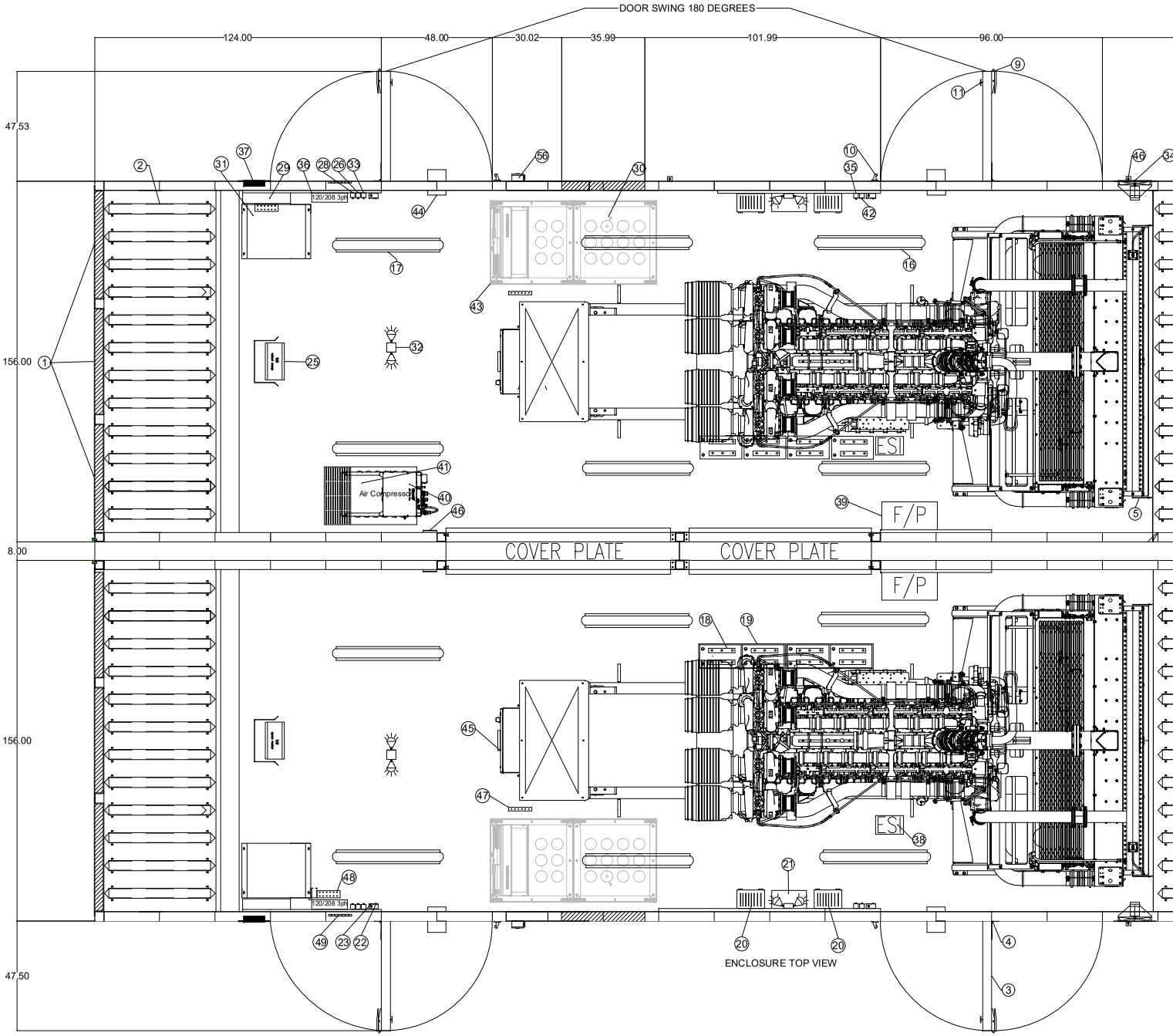
SOUND DEFINITIONS: Sound Power : DM8702
Sound Pressure : TM7080

Date Released : 03/12/24

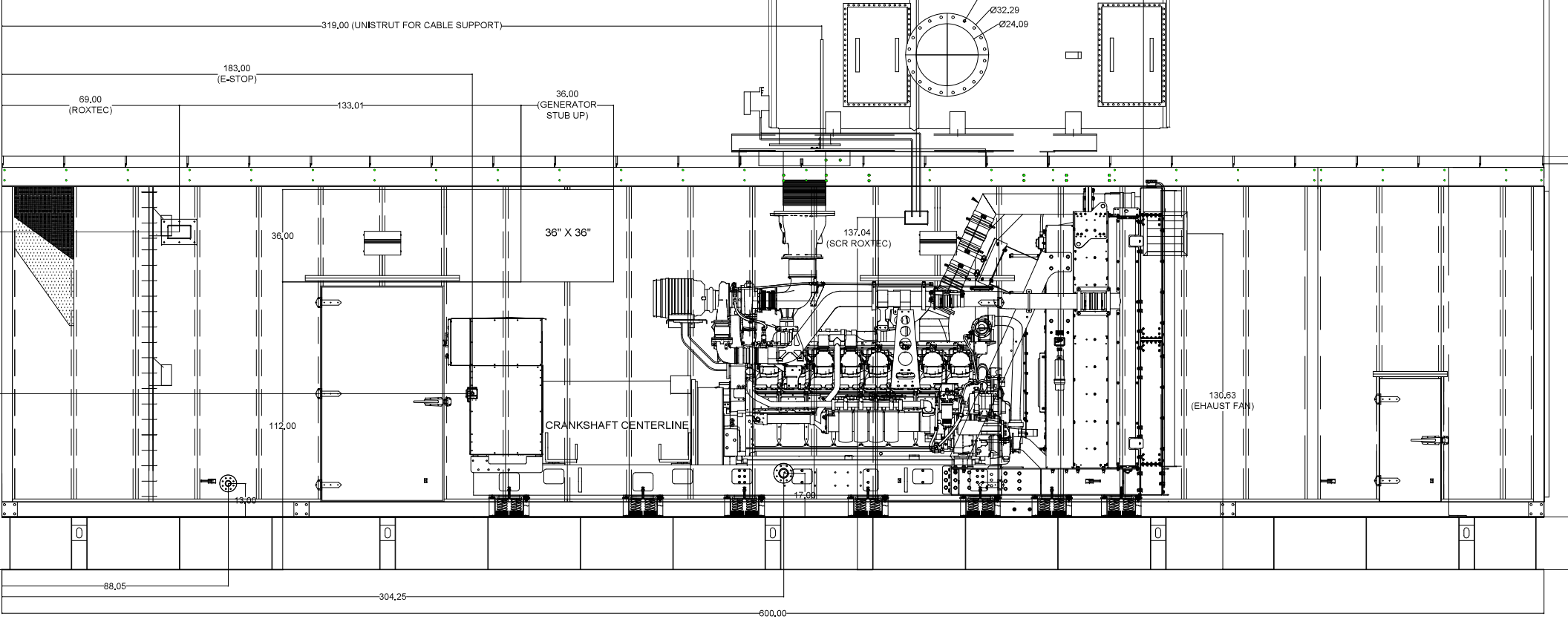
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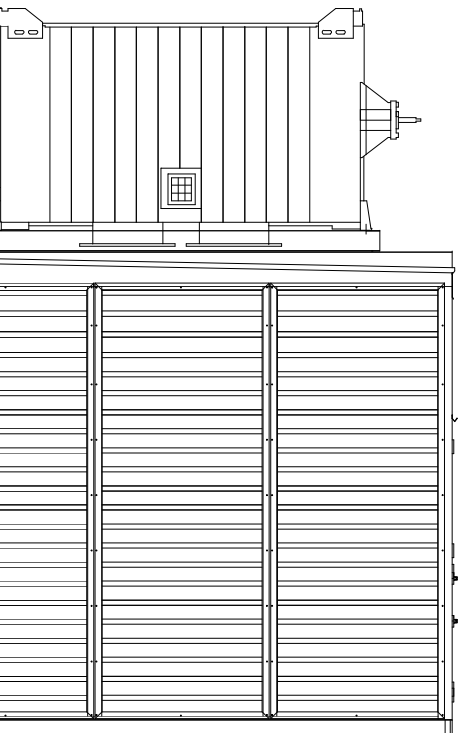
ENCLOSURE STACKED GENERATOR END VIEW

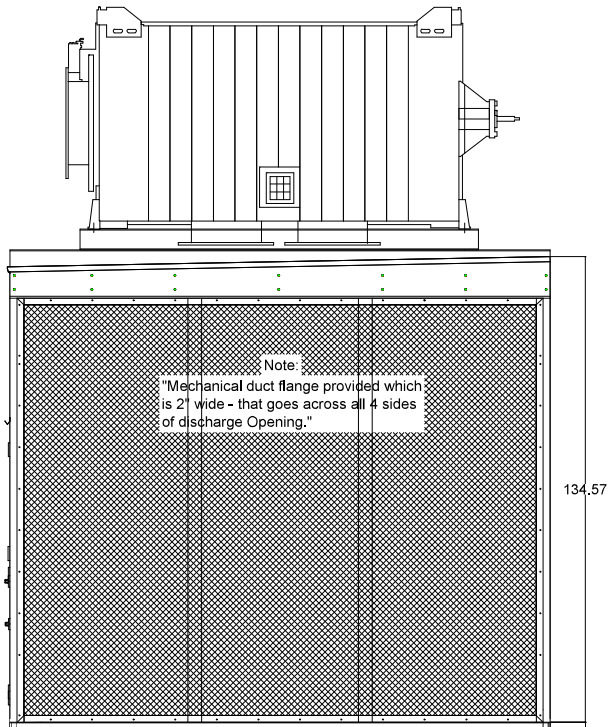


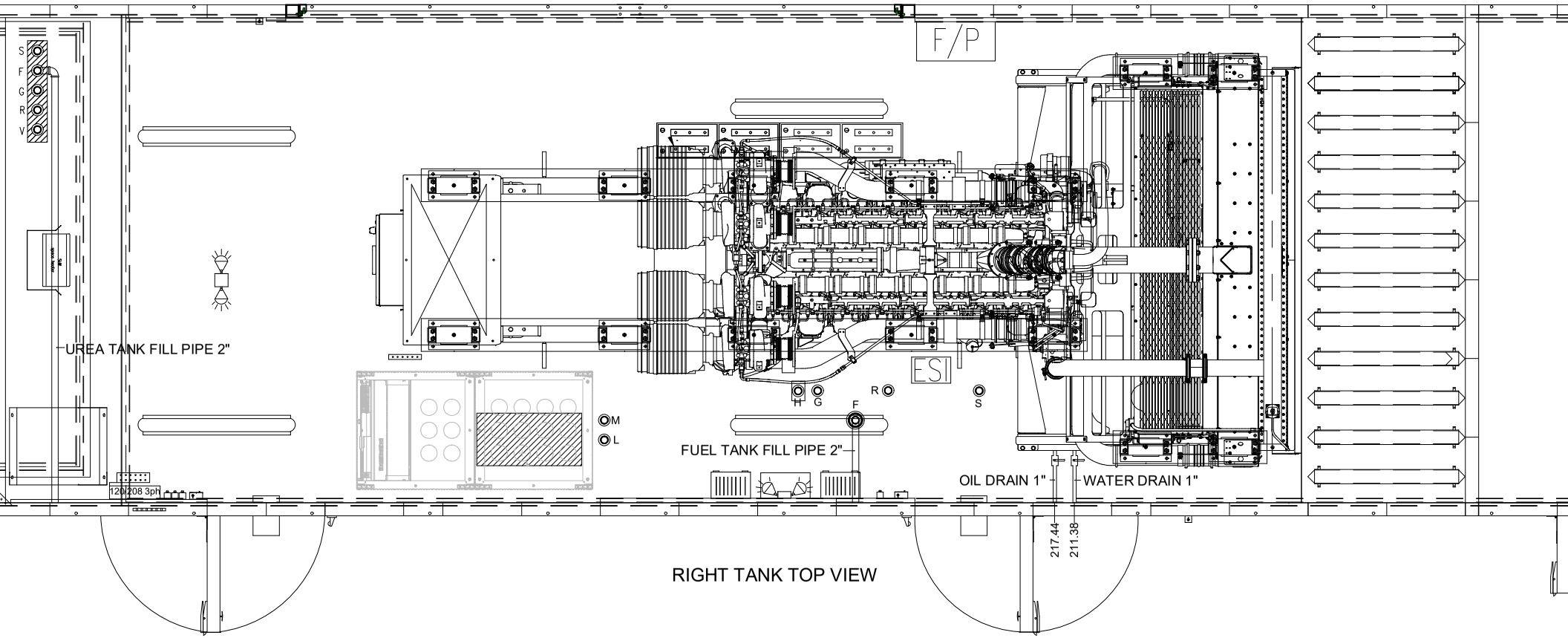
ENCLOSURE TOP VIEW



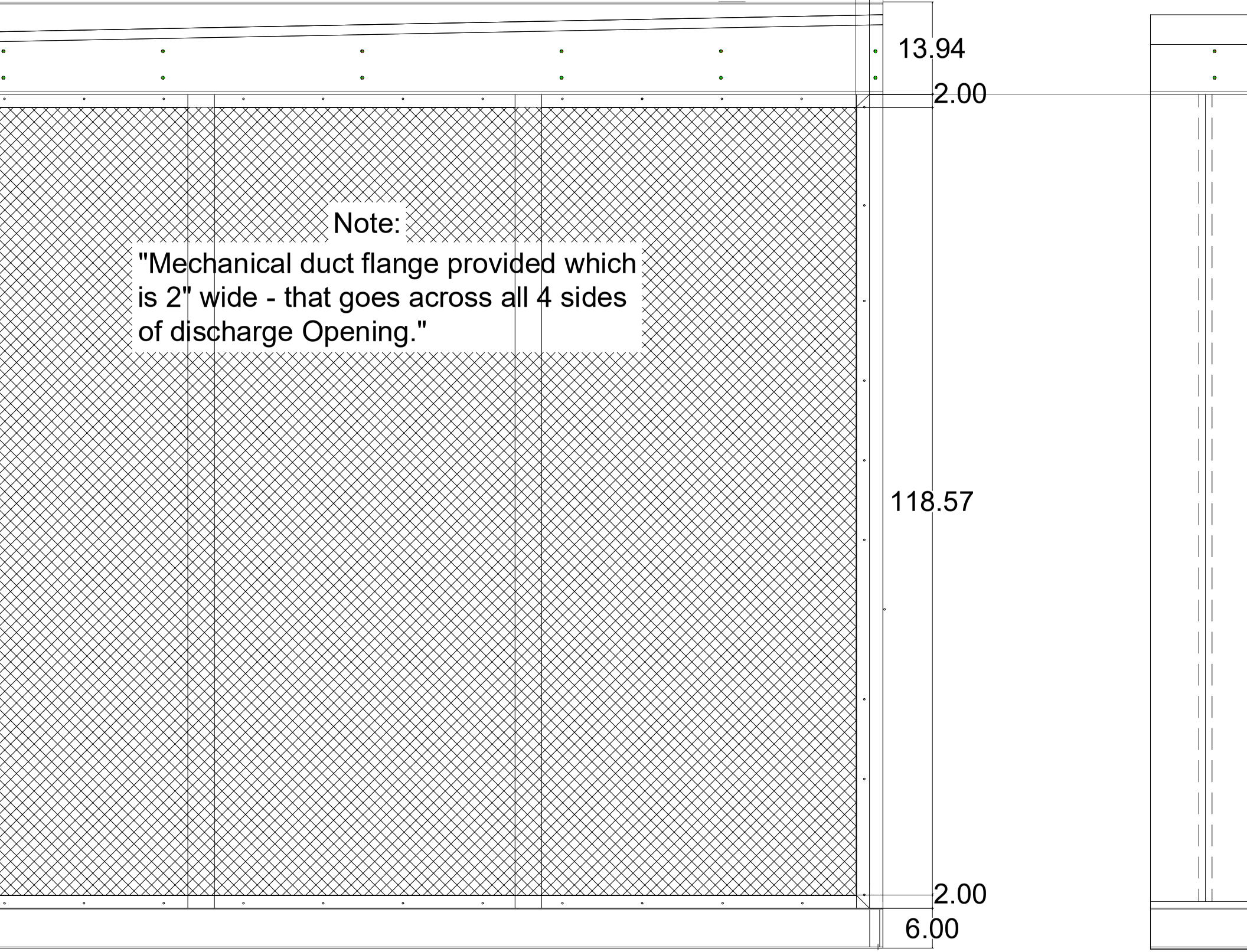
ENCLOSURE STACKED SIDE VIEW





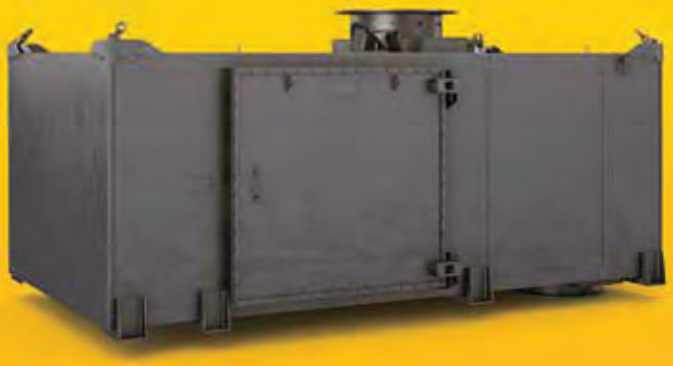


RIGHT TANK TOP VIEW


13.94
2.00
Note:
"Mechanical duct flange provided which is 2" wide - that goes across all 4 sides of discharge Opening."
118.57
2.00
6.00

ONE SOURCE.
ZERO STRESS.





The Cat® Retrofit Selective Catalytic Reduction (SCR) System

IT'S YOUR CHOICE – MAKE IT COUNT.

When you're adding an emissions reduction system, it makes sense to use the one built by the people who built your engine.



NOx reduced up to **95%**

PM reduced over **85%**

CO reduced up to **95%**

HC reduced up to **90%**

SINGLE-SOURCE CONFIDENCE

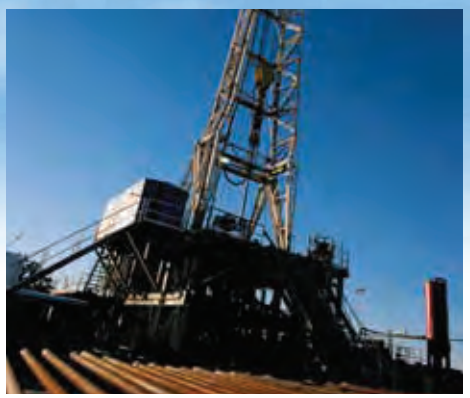
The Cat® Retrofit SCR System can help you meet challenging national, state, local, and site emissions restrictions in a compact package.

- **Dramatically reduces NOx and can be combined with DOC or DPF technology to reduce CO, HC, and PM**
- **Works with diesel, natural gas, or dual-fuel engines**
- **Easy to install and service**
- **Trusted Caterpillar technology built to the standards that you expect**

Having a single point of contact for all your emissions reduction needs reduces downtime and simplifies emissions compliance so you can focus on your business. Caterpillar and Cat dealers provide the power and support to keep your operations up and running.

YOUR INDUSTRY PARTNERS

With industry-leading technology and the world's largest and most responsive dealer network, Caterpillar is ready to be your one safe source.







THE POWER OF QUALITY

Every component in the Cat Retrofit SCR System is designed and manufactured to Caterpillar product standards. We take pride in our people, process, product, and service excellence. Our goal is to meet the specific needs of your operation with the highest quality and value.



OUR COMMITMENT TO YOU

Your satisfaction and loyalty are the focus our commitment. Caterpillar and your Cat dealer are on the job in countless applications around the world, working with you to deliver integrated power solutions that help your business succeed.



GLOBAL SUPPORT

Your Cat Retrofit SCR System is covered by the global Cat dealer network. Trained technicians ensure that parts, service, and support are always available. Our strength is in our partnership – Customer, Caterpillar, and Cat dealers with a united goal of high quality products and services. We're built to exceed your expectations.

For more information, contact your local Cat dealer or visit www.cat.com/emissionssolutions.

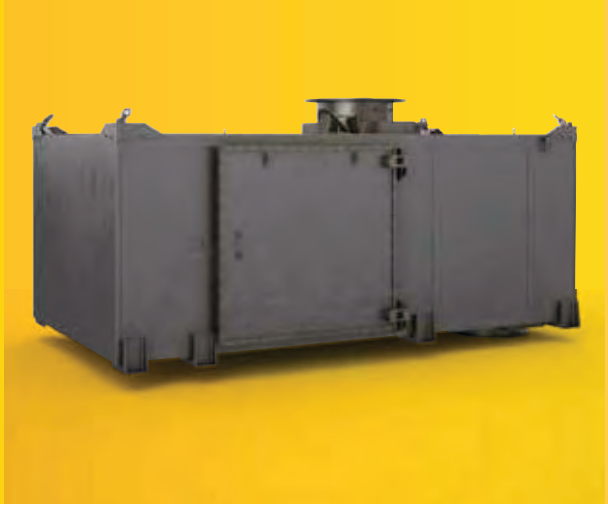
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CAT® RETROFIT SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM

Horizontal Design



Serviceability

- SCR catalyst hatch is hinged for ease of service during checks and fully removable for access during SCR catalyst removal and replacement.
- DOC/DPF hatch can be lifted by one technician without the need for cranes.
- Nut strips provide ease in securing of hatches after service.
- Catalysts are packaged in lightweight, easy-to-handle modules.

Performance

- Dual wall reactor housing with standard insulation blanket provides superior heat retention for maximum emissions reduction.
- Closed loop dosing control system ensures highest levels of emissions reductions at lowest cost.
- Integral silencer design provides high levels of sound reduction.

Flexibility

- Addition of DOC or DPF catalysts can be performed at a later date with no changes to unit.

Support

- One source for warranty on complete package that includes worldwide Cat® dealer coverage on engine and aftertreatment.

Durability

- Reactor housing is constructed of stainless steel for superior life in indoor and outdoor installations.
- Standard powder-coated steel dosing cabinet provides protection in indoor environments while an optional stainless steel cabinet provides additional durability in corrosive indoor environments.
- Specialized mounting feet allow natural thermal expansion during operation, reducing the potential for stress cracking.

Ease of Installation

- Mounting bosses provide easy installation of harnesses on site as well as a durable method of retention during operation.
- Integral lifting eyes reduce guesswork and potential safety issues involved with moving the unit by providing attachment points that promote stability.
- Integrated mixing tube and silencing provide easy installation.

Safety

- Standard insulation blanket reduces surface temperature for additional safety.
- E-stop on dosing cabinet enhances safety by providing the ability to completely shut down the SCR system in an emergency situation.

CONTACT INFORMATION	
Project Name: Cloud	Date: August 26, 2024
CATERPILLAR PRIMARY CONTACT Name: Paul Cook	DEALER CONTACT Name: Maria Drybread
Phone: 309-229-9726	Phone: 410-365-7009
Email: cook_paul@cat.com	Email: Maria_Drybread@cartermachinery.com

QUOTE TYPE	
Aftertreatment	Quotation#: PC08092024-01 Revision#: 1

ENGINE DETAILS	
Engine Model	3516E
Engine Serial Number	N/A
Performance Number	EM6285
Power	3,276 Bkw @ 100% load
Exhaust Flow Rate	18,638 kg/hr @ 100% load
Engine Outlet Temp	484 °C @ 100% load
Fuel:	ULSD

EMISSION REQUIREMENTS
NOx: 93.5% reduction @ 100% load

PROPOSAL SUMMARY			
Feature Code*	**Description**	**Dealer Net Price**	**Lead Time**
DTO	5X4X2 SCR (High Temp)	$235,000 US	Initial RTS March 2025, then 5 units per week (per discussion, please advise if any issues)
INS0051	Optional Insulation Blanket	$8,773 US	

***Systems are configured and ordered in CSQ using the Feature Code provided above in the Emissions Solutions Pricelist "SCRHORH". Formal CSQ quote should be generated by dealer as CSQ is the safe source for all pricing information. The following part numbers provided for items that are in Caterpillar scope of supply are for reference only, they are included in dealer net price and do not need to be ordered separately.**

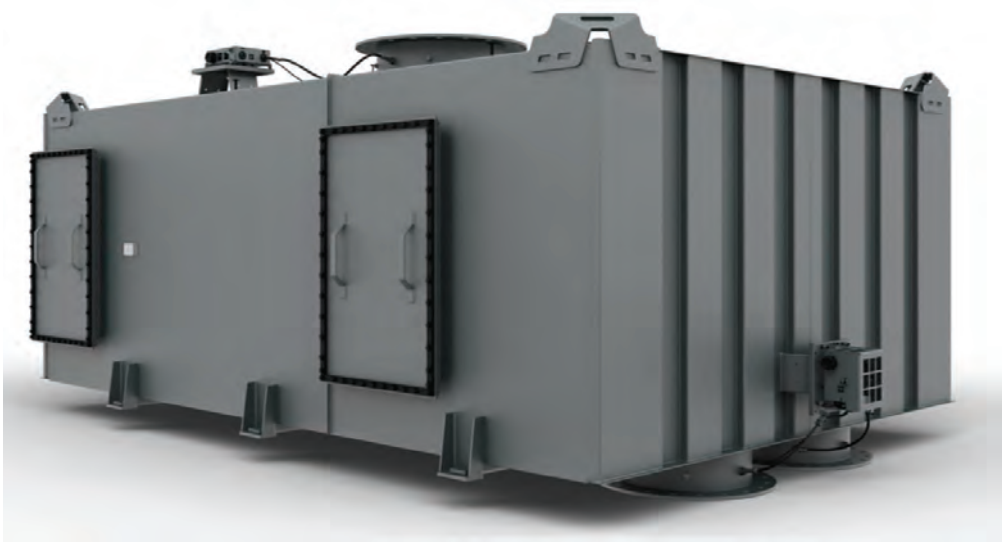
COMMERCIAL TERMS AND CONDITIONS	
Terms & conditions of sale	Please refer to the Caterpillar standard Distribution Agreement. Any exception to be noted.
Payment schedule	Please refer to the Caterpillar standard Distribution Agreement. Any exception to be noted.
Warranty Terms	24 months or 8000 hours of operation, whichever first (SELF5612)

Caterpillar: Confidential Green

SCOPE OF SUPPLY		
Description	**CAT**	**Dealer/Others**
CEM (Clean Emissions Module)	X	
CEM Support Structure		X
Dosing Cabinet	X	
Wiring Harnesses (including inlet/outlet NOx and temperature sensors and inlet backpressure sensor)	X	
DEF/AIR Lines from Dosing Cabinet to CEM	X	
DEF Storage		X
Compressed Air Supply		X
Installation		X
Freight		X
Optional Pricelist Items		
CEM Insulation Blanket	X	
DEF Supply Line 40 Micron Filter	X	
DEF Transfer Pump	X	

Caterpillar: Confidential Green

TECHNICAL DESCRIPTION - CEM



Part #:	DTO
Model #:	5X4X2
Catalyst Type(s):	SCR (High Temp)
Construction:	409SS
DEF Mixer:	Integrated
DEF Injector Location:	Side
Inlet(s):	2 X 20” ANSI (Bottom)
Outlet(s):	1 X 24” ANSI (Side, right and left side option available, 50% split)
Access Hatch Location (SCR):	Side
Access Hatch Location (DOC/DPF):	Side
Length:	4165 mm/164”
Width:	3190 mm/125.5”
Height:	1736 mm/68”
Weight:	3400 kg/7500 lbs. (approx..)
Drawings:	Engine Drawing Design Center
Estimated backpressure @ 100% load:	2.7 kPa

Caterpillar: Confidential Green

TECHNICAL DESCRIPTION - DOSING CABINET



Part #:	485-2865
Construction:	Painted Steel
Length:	980.6 mm/38.6”
Width:	529.2 mm/20.83”
Height:	902.6 mm/35.54”
Weight:	148 kg/326 lbs
Drawings:	Engine Drawing Design Center
Min. dosing temp. (exhaust temp @ CEM inlet):	300° C/572° F

Caterpillar: Confidential Green

TECHNICAL DESCRIPTION – DOSING CABINET WIRING HARNESS



Part #:	510-8380
Approx. Length:	4060 mm/160”

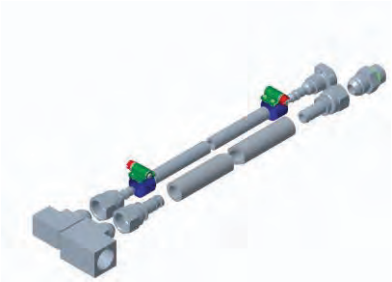
TECHNICAL DESCRIPTION – CEM WIRING HARNESS



Part #:	516-3975
Approx. Length:	3860 mm/152”

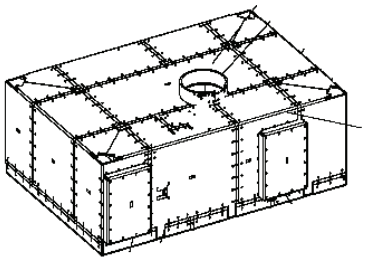
Caterpillar: Confidential Green

TECHNICAL DESCRIPTION – DEF/AIR LINES



Part #:	539-1385
DEF Line Dimensions:	7.5 mm ID X 18,300 mm/60 ft.
DEF Line Material:	EPDM rubber
Air Line Dimensions:	12.5 mm ID X 18,300 mm/60 ft.
Air Line Material:	Reinforced synthetic rubber

TECHNICAL DESCRIPTION – CEM INSULATION BLANKET



Thickness:	1”

Caterpillar: Confidential Green

SUPPORTING DOCUMENTATION		
Item	**Media #**	**Location**
Application & Installation Guide	LEBE0035	Electronic Media Center (EMC)
Operation & Maintenance Manual	M0075634	Service Information System (SIS)
Systems Operation Testing & Adjusting	M0070376	Service Information System (SIS)
Parts Manual	M0077572	Service Information System (SIS)
Commissioning Report	UENR4339	Service Information System (SIS)
Schematic – Retrofit SCR Electrical System	UENR4742	Service Information System (SIS)
Warranty	SELF5612	warranty.cat.com
CEM Insulation Instructions	M0112967	Service Information System (SIS)
DEF Filter A&I Newsletter	LEDM0194	Electronic Media Center (EMC)

Caterpillar: Confidential Green

CES Retrofit Load limit capability at Rated temperature condition

t Load Limit at Rated Temperature Conditions

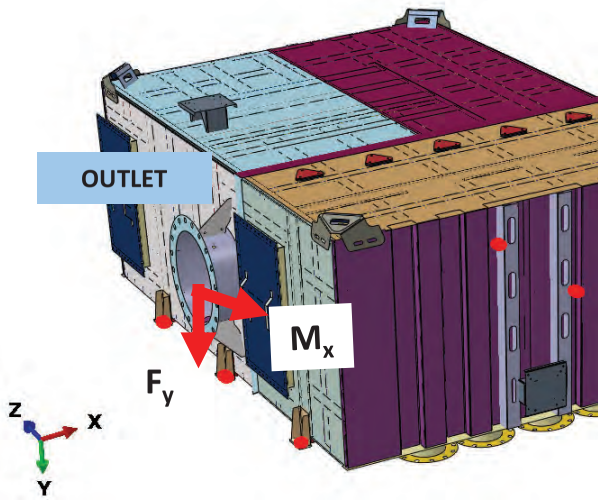
t(LCF)	Moment(KN-m)												
	0	0.2	0.4	0.5	0.6	0.8	1	1.2	1.4	1.5	1.6	1.8	2
0	40.93	10.09	5.76	4.74	4.03	3.10	2.51	2.12	1.83	1.71	1.61	1.44	1.30
0.2	28.74	9.14	5.43	4.52	3.86	3.00	2.45	2.18	1.88	1.75	1.65	1.47	1.32
0.4	22.14	8.35	5.14	4.31	3.72	2.91	2.39	2.13	1.84	1.72	1.62	1.44	1.30
0.5	19.87	8.00	5.01	4.22	3.65	2.87	2.36	2.11	1.82	1.71	1.60	1.43	1.29
0.6	18.01	7.68	4.88	4.13	3.58	2.82	2.33	2.09	1.81	1.69	1.59	1.42	1.29
0.8	15.18	7.12	4.65	3.96	3.45	2.74	2.28	2.04	1.77	1.66	1.57	1.40	1.27
1	13.12	6.63	4.43	3.80	3.33	2.67	2.22	2.00	1.74	1.63	1.54	1.38	1.25
1.2	11.55	6.20	4.24	3.66	3.22	2.60	2.17	1.96	1.71	1.61	1.52	1.36	1.24
1.4	10.31	5.83	4.06	3.53	3.12	2.53	2.13	1.92	1.68	1.58	1.49	1.34	1.22
1.5	9.79	5.66	3.98	3.46	3.07	2.50	2.10	1.82	1.67	1.57	1.48	1.33	1.21
1.6	9.32	5.49	3.90	3.40	3.02	2.46	2.08	1.88	1.65	1.56	1.47	1.32	1.21
1.8	8.50	5.20	3.75	3.29	2.93	2.40	2.04	1.85	1.62	1.53	1.45	1.31	1.19
2	7.81	4.93	3.61	3.18	2.84	2.34	1.99	1.81	1.60	1.51	1.43	1.29	1.18

n Factor = Material Yield Strength/ Stress under Piping Load

- No Piping
- 1.0 < Margin Factor < 2.0
- Margin Factor > 2.0
- Margin Factor < 1.0

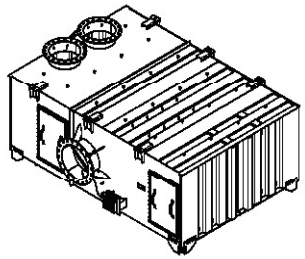
Material Yield Strength @ Rated,1E1113 =221 MPa

From MVISON Data

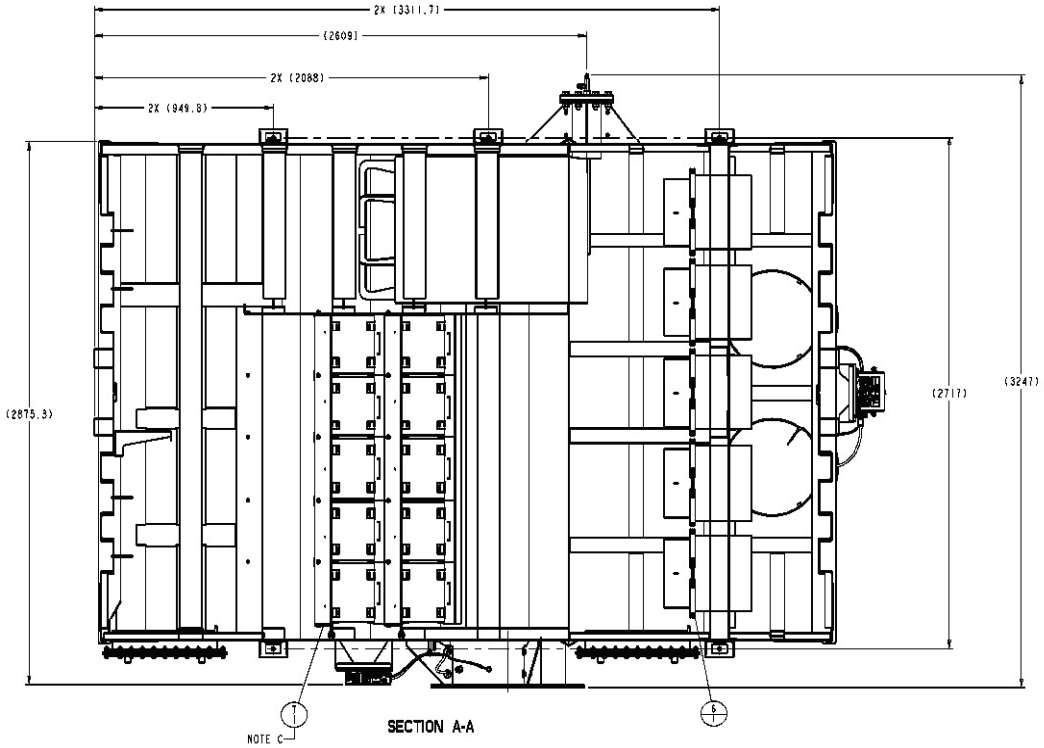


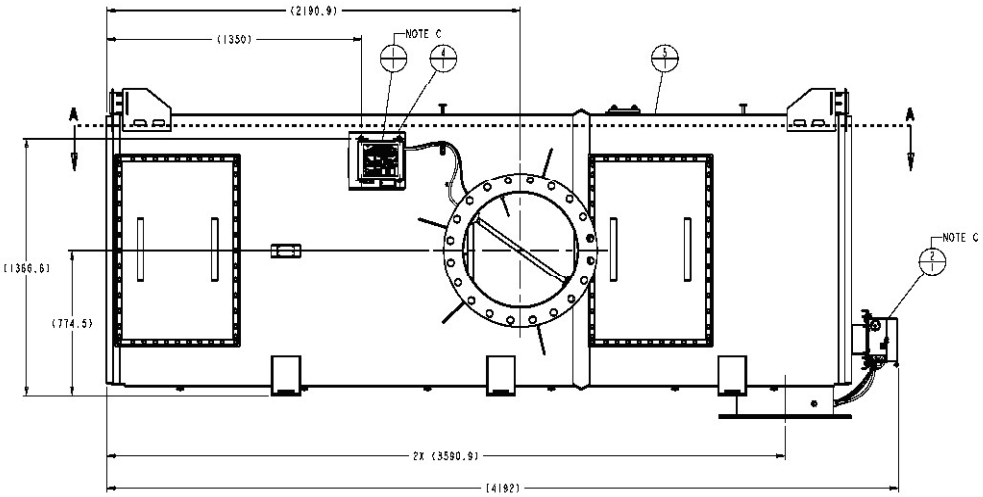
METRIC 660-5235

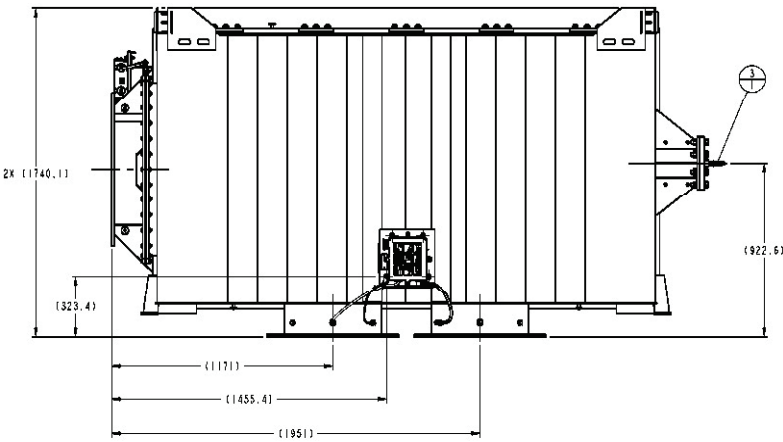
SEC	ITEM	QTY	MEAS UNIT	PART NO.	NAME
					PARTS LIST
B	1	1		613-3372	SENSOR GP-ELEC
B	2	1		613-3319	SENSOR GP-MTG&-A
B	3	1		617-9481	INJECTOR GP-EXH
B	4	1		633-2359	HARDWARE GP
	5	1		660-5234	CONV GP-CTLTC
	6	1		632-7744	CATALYST GP
	7	1		645-8921	CATALYST GP
					REQUIREMENTS
D	-	-		602-6650	INSTRUCTIONS
E	-	-		439-7420	INSTRUCTION-TEST
F	-	-		347-0164	INSTRUCTIONS
F	-	-		347-1398	SOFTWARE



PICTORIAL VIEW







EMISSIONS TEST. NO DEVIATION OR CHANGES WITHOUT ENGRG APPROVAL

NOTE A: THE CONSIST OF THIS DRAWING SHALL NOT CONTAIN MIN/MAX NOTES OR BE CHANGED BY USING ATTACHMENT OR STANDARD OR CONSIST REMOVALS IN EDS OR IN ANY OTHER SYSTEMS

NOTE B: SHIP LOOSE

NOTE C: SEE COMPONENT DRAWING FOR TIGHTENING REQUIREMENTS

NOTE D: USE TEST PARAMETERS SET# 23

NOTE E: SEE TEST PROCEDURE

NOTE F: REFER TO INSTRUCTIONS FOR PROGRAMMING AND TESTING THE AFTERTREATMENT IDENTIFICATION DEVICE

REV		
	IE5167A	INT-PROP
A	IE4185	DRAWING-POS BLD
	IE2966A	IDENT
	IE2722A	DRAWING
	IE2457	EMISSIONS CONT
	IE0307D	IDENT
	IE0279X	TIGHTENING
	IE0198F	BRAND MARKINGS
	IE0013Y	CONFIDENTIALITY
	IE0012B	INTERPRETATION
	IE0011	INTPR & TOL

Caterpillar Confidential Yellow

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X SECONDARY

THIRD ANGLE PROJECTION

SHEET 1 OF 1

PSU CONTROL PSU1

CATERPILLAR

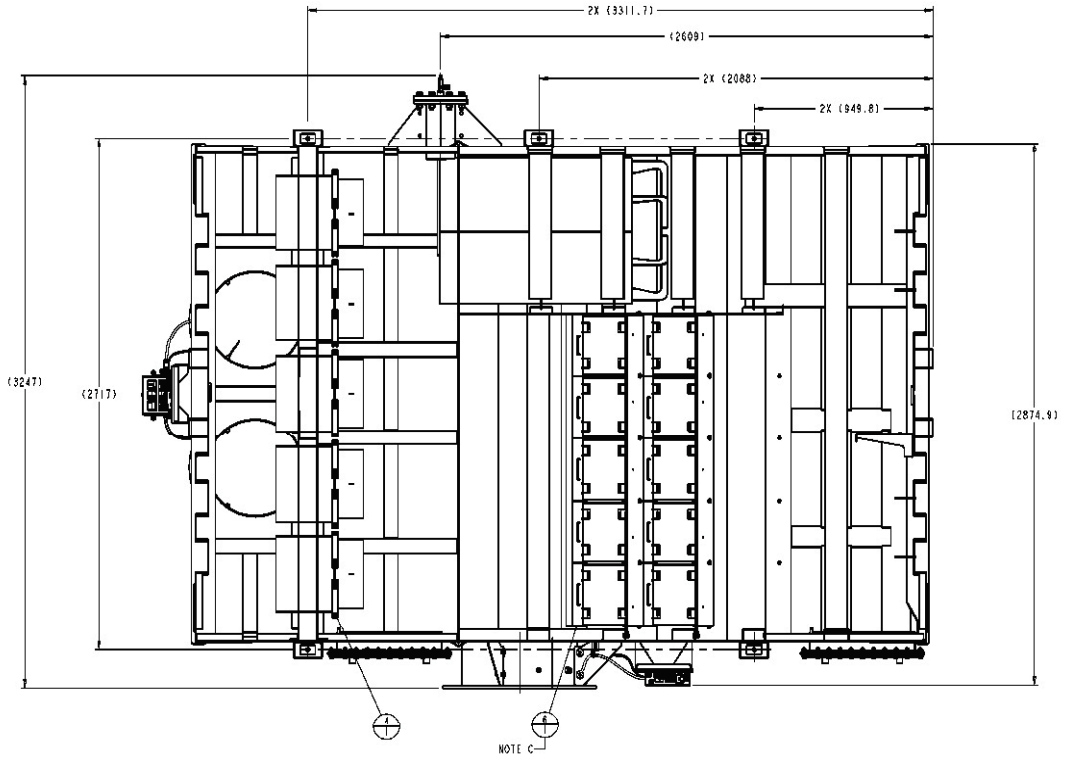
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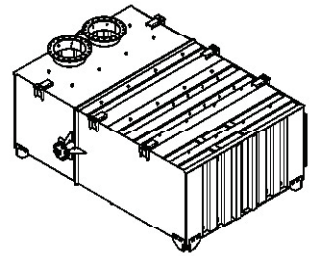
MODULE AR-EXH

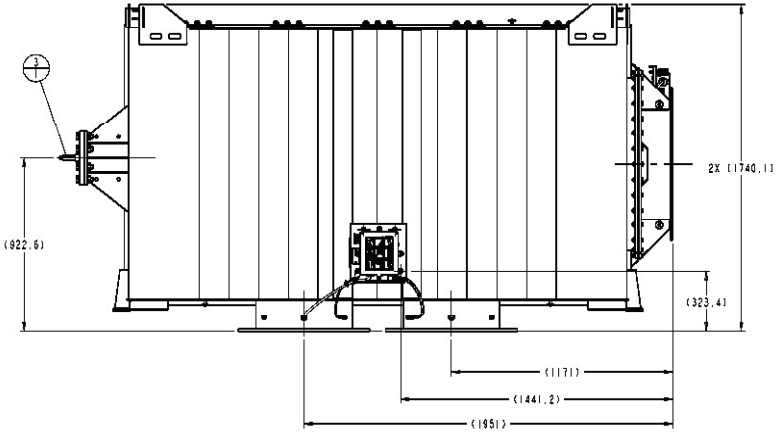
660-5235 REV - CHG 00 E

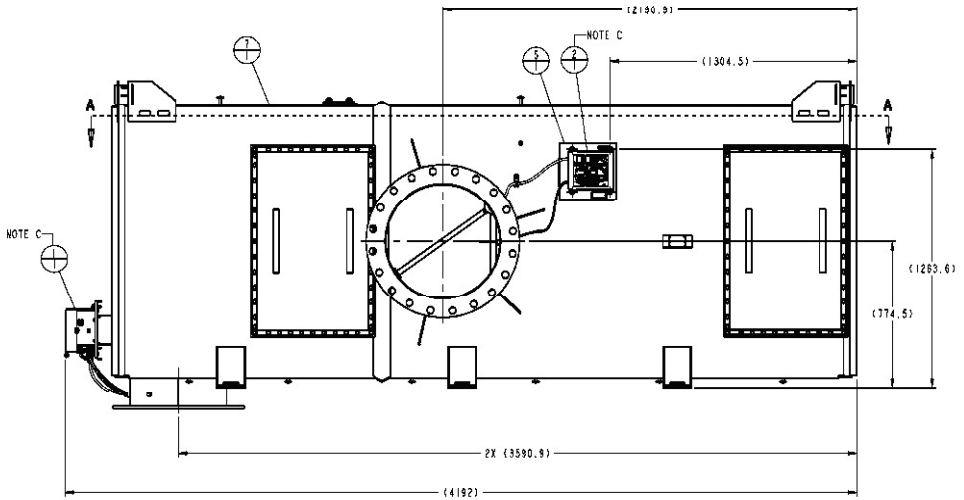
METRIC 660-5240

SEC	ITEM	QTY	MEAS UNIT	PART NO.	NAME
					PARTS LIST
B	1	1		613-3319	SENSOR GP-MTG&-A
B	2	1		613-3372	SENSOR GP-ELEC
B	3	1		617-9481	INJECTOR GP-EXH
	4	1		632-7744	CATALYST GP
B	5	1		633-2359	HARDWARE GP
	6	1		659-8217	CATALYST GP
	7	1		660-5239	CONV GP-CTLTC
					REQUIREMENTS
D	-	-		602-6650	INSTRUCTIONS
E	-	-		439-7420	INSTRUCTION-TEST
F	-	-		347-0164	INSTRUCTIONS
F	-	-		347-1398	SOFTWARE




PICTORIAL VIEW





EMISSIONS TEST ALTERATION OR CHANGES WITHOUT ENGINE APPROVAL

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NOTE B: SHIP LOOSE

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REV		
	IE5167A	INT-PROP
A	IE4185	DRAWING-POS BLD
	IE2966A	IDENT
	IE2722A	DRAWING
	IE2457	EMISSIONS CONT
	IE0307D	IDENT
	IE0279X	TIGHTENING
	IE0198F	BRAND MARKINGS
	IE0013Y	CONFIDENTIALITY
	IE0012B	INTERPRETATION
	IE0011	INTPR & TOL

Caterpillar Confidential Yellow

PROD. X OTHER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm DIMENSIONS W/O TOL ARE BASIC

VERSION TYPE: PRIMARY X SECONDARY

THIRD ANGLE PROJECTION

SHEET 1 OF 1

PRV CONTROL PS111

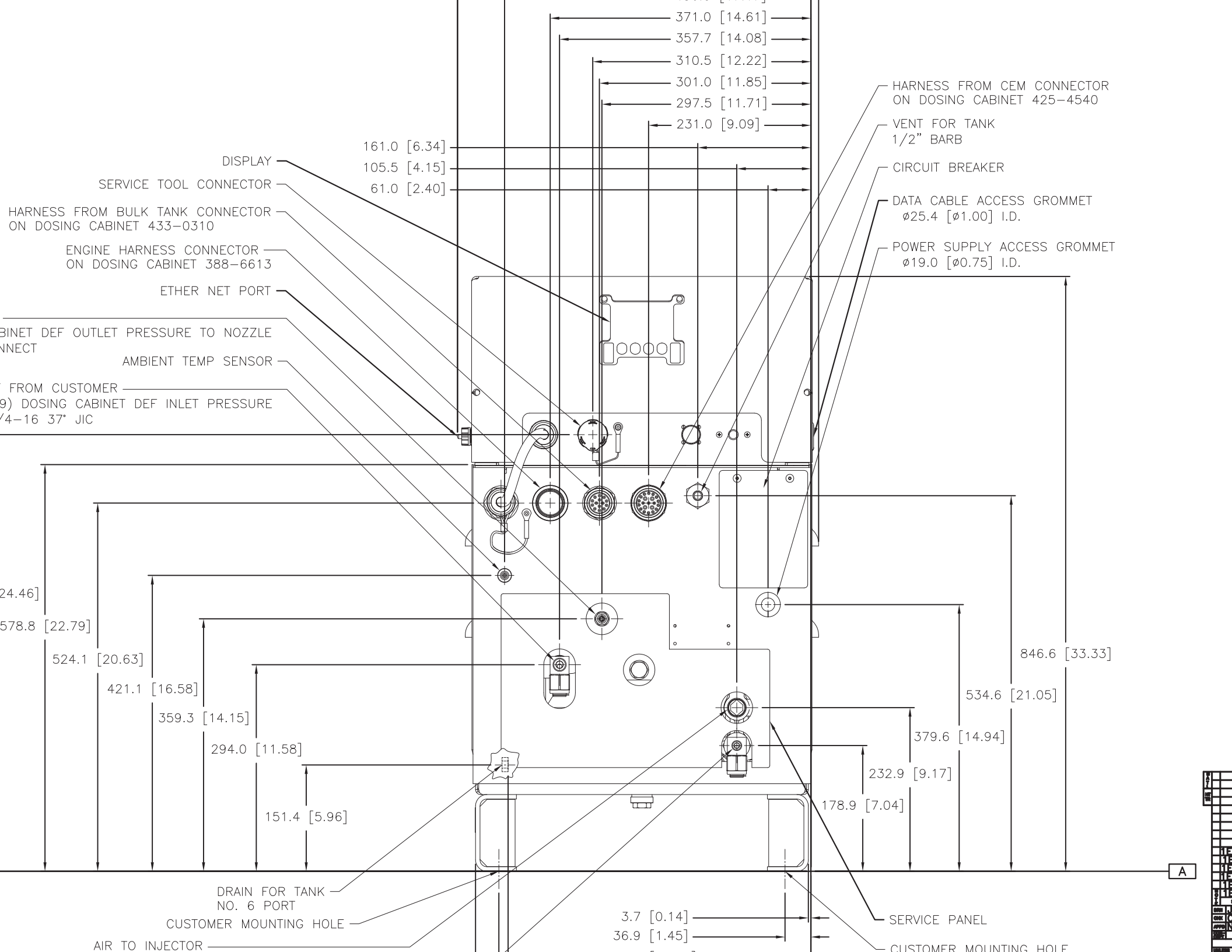
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MODULE AR-EXH

(5X4X2 DTO 477) (RH)

660-5240 VER - CHG 00 E


371.0 [14.61]
357.7 [14.08]
310.5 [12.22]
301.0 [11.85]
297.5 [11.71]
231.0 [9.09]
161.0 [6.34]
105.5 [4.15]
61.0 [2.40]
HARNESS FROM CEM CONNECTOR ON DOSING CABINET 425–4540
VENT FOR TANK 1/2" BARB
CIRCUIT BREAKER
DATA CABLE ACCESS GROMMET ø25.4 [ø1.00] I.D.
POWER SUPPLY ACCESS GROMMET ø19.0 [ø0.75] I.D.
DISPLAY
SERVICE TOOL CONNECTOR
HARNESS FROM BULK TANK CONNECTOR ON DOSING CABINET 433–0310
ENGINE HARNESS CONNECTOR ON DOSING CABINET 388–6613
ETHER NET PORT
BINET DEF OUTLET PRESSURE TO NOZZLE
NNECT
AMBIENT TEMP SENSOR
FROM CUSTOMER
9) DOSING CABINET DEF INLET PRESSURE
/4–16 37° JIC
24.46]
578.8 [22.79]
524.1 [20.63]
421.1 [16.58]
359.3 [14.15]
294.0 [11.58]
151.4 [5.96]
846.6 [33.33]
534.6 [21.05]
379.6 [14.94]
232.9 [9.17]
178.9 [7.04]
A
DRAIN FOR TANK NO. 6 PORT
CUSTOMER MOUNTING HOLE
AIR TO INJECTOR
3.7 [0.14]
36.9 [1.45]
SERVICE PANEL
CUSTOMER MOUNTING HOLE

Cat® 3512C
Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	190 (7.48)
Displacement – L (in^3)	51.8 (3161)
Compression Ratio	14.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Continuous 60 Hz ekW (kVA)	Emissions Performance
1500 (1875)	1500 (1875)	1360 (1700)	1230 (1537)	U.S. EPA Stationary Emergency Use Only (Tier 2)

Features

Cat® Diesel Engine
- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide
- Certified alternative fuels including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD) and Hydrotreated Renewable Diesel (HRD) which meet EN 15940 or ASTM D975 can be used or blended with EN 590 diesel

Generator Set Package
- Accepts 100% block load in one step
- Meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System
- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

Cat Energy Control System (ECS)
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements
- Graphical touchscreen display
- Easily upgradeable

Warranty
- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Standard and Optional Equipment

Engine

Air Cleaner

- ■ Single element
- ❑ Dual element
- ❑ Heavy duty

Muffler

- ❑ Industrial grade (15 dB)

Starting

- ■ Standard batteries
- ❑ Oversized batteries
- ■ Standard electric starter(s)
- ❑ Dual electric starter(s)
- ❑ Air starter(s)
- ■ Jacket water heater

Alternator

Output voltage

- ❑ 380V ❑ 6600V
- ❑ 440V ❑ 6900V
- ■ 480V ❑ 12470V
- ❑ 600V ❑ 13200V
- ❑ 4160V ❑ 13800V
- ❑ 6300V

Temperature Rise (over 40°C ambient)

- ❑ 150°C
- ❑ 125°C/130°C
- ■ 105°C
- ❑ 80°C

Winding type

- ❑ Random wound
- ■ Form wound

Excitation

- ❑ Internal excitation (IE)
- ■ Permanent magnet (PM)

Attachments

- ■ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

Power Termination

Type

- ❑ Bus bar
- ■ Circuit breaker
- ❑ 1600A ❑ 2000A
- ■ 2500A ❑ 3200A
- ❑ 3000A
- ❑ UL ❑ IEC
- ■ 3-pole ❑ 4-pole
- ❑ Manually operated
- ■ Electrically operated

Trip Unit

- ❑ LSI ❑ LSI-G
- ■ LSIG-P

Control System

Controller

- ■ Cat ECS 100
- ❑ Cat ECS 200
- ❑ EMCP 4.4

Attachments

- ■ Local annunciator module
- ❑ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

Charging

- ❑ Battery charger – 10A
- ❑ Battery charger – 20A
- ❑ Battery charger – 35A

Battery Charger - 30A

Vibration Isolators

- ■ Spring
- ❑ Seismic rated

Cat Connect

Connectivity

- ■ Ethernet
- ❑ Cellular

Extended Service Options

Terms

- ❑ 2 year (prime)
- ❑ 3 year
- ❑ 5 year
- ❑ 10 year

Coverage

- ❑ Silver
- ❑ Gold
- ❑ Platinum
- ❑ Platinum Plus

Ancillary Equipment

- ❑ Automatic transfer switch (ATS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

Certifications

- ■ ULC 2200 Listed
- ❑ IBC seismic certification
- ❑ OSHPD pre-approval

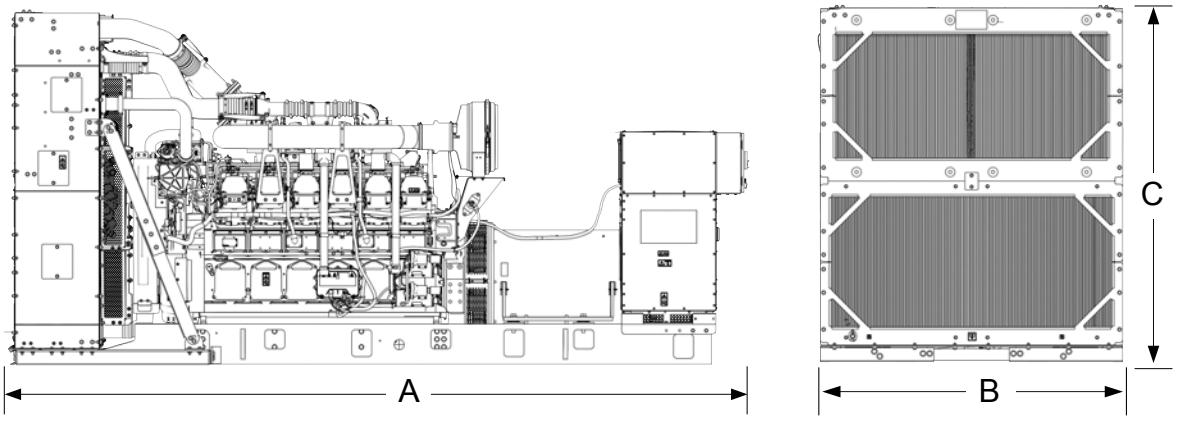
Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

Package Performance

Performance	Standby	
Frequency	60 Hz	
Gen set power rating with fan	1500 ekW	
Gen set power rating with fan @ 0.8 power factor	1875 kVA	
Emissions	EPA ESE (Tier 2)	
Performance number	EM1898-01	
Fuel Consumption		
100% load with fan – L/hr (gal/hr)	383.3	(101.3)
75% load with fan – L/hr (gal/hr)	300.6	(79.4)
50% load with fan – L/hr (gal/hr)	212.7	(56.2)
25% load with fan – L/hr (gal/hr)	124.3	(32.8)
Cooling System		
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	1745	(61624)
Engine coolant capacity – L (gal)	156.8	(41.4)
Radiator coolant capacity – L (gal)	128.0	(33.8)
Total coolant capacity – L (gal)	284.8	(75.2)
Inlet Air		
Combustion air inlet flow rate – m^3/min (cfm)	135.8	(4794.6)
Exhaust System		
Exhaust stack gas temperature – °C (°F)	402.6	(756.6)
Exhaust gas flow rate – m^3/min (cfm)	323.0	(11406.4)
Exhaust system backpressure (maximum allowable – kPa (in. water)	6.7	(27.0)
Heat Rejection		
Heat rejection to jacket water – kW (Btu/min)	499	(28363)
Heat rejection to exhaust (total) – kW (Btu/min)	1431	(81392)
Heat rejection to aftercooler – kW (Btu/min)	504	(28646)
Heat rejection to atmosphere from engine – kW (Btu/min)	125	(7084)
Heat rejection from alternator – kW (Btu/min)	74	(4208)
Emissions* (Nominal)		
NOx mg/Nm^3 (g/hp-h)	2303.5	(5.32)
CO mg/Nm^3 (g/hp-h)	230.3	(0.47)
HC mg/Nm^3 (g/hp-h)	50.3	(0.12)
PM mg/Nm^3 (g/hp-h)	12.6	(0.03)
Emissions* (Potential Site Variation)		
NOx mg/Nm^3 (g/hp-h)	2764.3	(6.38)
CO mg/Nm^3 (g/hp-h)	414.5	(0.84)
HC mg/Nm^3 (g/hp-h)	66.9	(0.16)
PM mg/Nm^3 (g/hp-h)	17.7	(0.04)

**mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer fo*

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
5618 (221.2)	2279 (89.7)	2652 (104.4)	13 141 (28,971)

Note: *For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.*

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated ekW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime
Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous
Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous rated ekW. Typical peak demand is 100% of continuous rated ekW for 100% of the operating hours.

Applicable Codes and Standards
AS 1359, ULC 2200 3rd edition, UL 489, UL 869A, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates
Fuel consumption reported in accordance with ISO 3046-1, based on fuel oil of 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 15ºC (59ºF) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

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Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

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PERFORMANCE DATA [EM1898]

AUGUST 25, 2025

For Help Desk Phone Numbers Click here

Perf No: EM1898 **Change Level:** 02

General | Heat Rejection | Sound | Emissions | Regulatory | Altitude Derate | Cross Reference | Supplementary Data | Perf Param Ref

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SALES MODEL:	3512C	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
MACHINE SALES MODEL:		**HERTZ:**	60
ENGINE POWER (BHP):	2,206	**FAN POWER (HP):**	88.5
GEN POWER WITH FAN (EKW):	1,500.0	**ASPIRATION:**	TA
COMPRESSION RATIO:	14.7	**AFTERCOOLER TYPE:**	ATAAC
RATING LEVEL:	STANDBY	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC, ATAAC
PUMP QUANTITY:	1	**INLET MANIFOLD AIR TEMP (F):**	122
FUEL TYPE:	DIESEL	**JACKET WATER TEMP (F):**	210.2
MANIFOLD TYPE:	DRY	**TURBO CONFIGURATION:**	PARALLEL
GOVERNOR TYPE:	ADEM3	**TURBO QUANTITY:**	4
ELECTRONICS TYPE:	ADEM3	**TURBOCHARGER MODEL:**	GTB4708BN-52T-0.96
CAMSHAFT TYPE:	STANDARD	**CERTIFICATION YEAR:**	2006
IGNITION TYPE:	CI	**CRANKCASE BLOWBY RATE (FT3/HR):**	2,203.4
INJECTOR TYPE:	EUI	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	9.8
FUEL INJECTOR:	3920220	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,244.1
UNIT INJECTOR TIMING (IN):	64.34		
REF EXH STACK DIAMETER (IN):	10		
MAX OPERATING ALTITUDE (FT):	3,937		

INDUSTRY	SUB INDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data Top

Note(s)

THIS STANDBY RATING IS FOR A STANDBY ONLY ENGINE ARRANGEMENT. RERATING THE ENGINE TO A PRIME OR CONTINUOUS RATING IS NOT PERMITTED.

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/EKW-HR	LB/EKW-HR
1,500.0	100	2,206	307	0.332	0.326	103.2	101.3	0.488	0.479
1,350.0	90	1,983	276	0.336	0.330	94.0	92.2	0.494	0.484
1,200.0	80	1,768	246	0.343	0.336	85.5	83.8	0.505	0.496
1,125.0	75	1,662	232	0.346	0.339	81.0	79.4	0.510	0.501
1,050.0	70	1,556	217	0.348	0.341	76.4	74.9	0.516	0.506
900.0	60	1,349	188	0.352	0.346	67.0	65.7	0.528	0.518
750.0	50	1,144	159	0.355	0.349	57.3	56.2	0.542	0.532
600.0	40	940	131	0.359	0.352	47.6	46.7	0.563	0.552
450.0	30	736	103	0.368	0.361	38.1	37.4	0.601	0.590
375.0	25	632	88	0.376	0.368	33.5	32.8	0.633	0.621
300.0	20	527	73	0.388	0.380	28.8	28.3	0.681	0.668
150.0	10	312	43	0.443	0.434	19.5	19.1	0.920	0.902

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
1,500.0	100	2,206	77.5	120.9	1,145.6	74.6	756.6	82	449.8
1,350.0	90	1,983	72.2	116.1	1,102.7	68.8	727.5	77	428.8
1,200.0	80	1,768	66.9	113.2	1,069.1	63.0	713.4	71	409.0
1,125.0	75	1,662	63.4	111.5	1,052.3	59.5	706.7	68	396.6
1,050.0	70	1,556	59.7	109.8	1,035.2	55.8	700.0	64	382.6
900.0	60	1,349	51.1	107.1	1,000.5	47.6	687.3	55	350.3
750.0	50	1,144	40.6	107.5	963.6	38.4	696.7	44	309.9
600.0	40	940	30.0	108.4	921.9	29.4	702.2	33	266.6
450.0	30	736	20.9	107.1	856.0	21.9	685.3	23	224.6
375.0	25	632	16.9	106.2	809.5	18.8	664.9	19	204.3
300.0	20	527	13.3	105.2	754.5	16.0	636.4	15	184.2
150.0	10	312	7.3	103.2	609.7	11.4	540.6	9	148.8

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
1,500.0	100	2,206	4,794.6	11,406.4	21,167.1	21,899.0	4,610.8	4,188.7
1,350.0	90	1,983	4,598.6	10,640.5	20,285.8	20,952.1	4,406.6	4,013.7
1,200.0	80	1,768	4,378.0	9,981.4	19,285.7	19,892.1	4,183.4	3,822.5
1,125.0	75	1,662	4,246.6	9,595.7	18,674.6	19,249.2	4,045.1	3,700.9
1,050.0	70	1,556	4,098.2	9,181.5	17,984.1	18,526.3	3,892.6	3,565.4
900.0	60	1,349	3,753.0	8,273.8	16,379.2	16,854.4	3,546.8	3,254.6
750.0	50	1,144	3,280.4	7,230.6	14,251.7	14,658.2	3,074.4	2,822.7
600.0	40	940	2,787.5	6,155.4	12,057.0	12,394.7	2,604.7	2,394.2
450.0	30	736	2,363.4	5,134.0	10,186.4	10,456.9	2,204.7	2,032.9
375.0	25	632	2,179.8	4,645.2	9,382.2	9,619.6	2,030.9	1,877.5
300.0	20	527	2,011.4	4,165.1	8,648.1	8,852.3	1,868.3	1,733.0
150.0	10	312	1,730.9	3,244.5	7,428.8	7,566.8	1,594.8	1,494.1

Heat Rejection Data Top

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
1,500.0	100	2,206	28,363	7,084	81,392	37,320	11,956	28,646	93,547	224,476	239,123
1,350.0	90	1,983	26,596	6,665	74,128	33,028	10,882	26,053	84,110	204,315	217,647
1,200.0	80	1,768	24,935	6,360	68,257	30,111	9,897	23,350	74,958	185,825	197,950
1,125.0	75	1,662	24,035	6,215	64,979	28,563	9,376	21,735	70,466	176,039	187,526
1,050.0	70	1,556	23,095	6,074	61,624	26,950	8,845	20,016	66,004	166,069	176,905
900.0	60	1,349	21,108	5,797	54,723	23,576	7,759	16,292	57,205	145,683	155,189
750.0	50	1,144	18,963	5,518	47,678	21,085	6,636	11,959	48,509	124,586	132,716
600.0	40	940	16,710	5,240	40,505	18,108	5,512	7,849	39,882	103,489	110,241
450.0	30	736	14,361	4,818	33,056	14,499	4,416	4,829	31,201	82,917	88,327
375.0	25	632	13,131	4,577	29,249	12,494	3,876	3,681	26,809	72,772	77,520
300.0	20	527	11,848	4,331	25,396	10,418	3,336	2,726	22,353	62,628	66,715
150.0	10	312	9,052	3,821	17,619	5,853	2,253	1,342	13,214	42,301	45,061

Sound Data Top

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	117.0	107.0	122.0	118.0	110.0
1,350.0	90	1,983	116.0	106.0	121.0	117.0	109.0
1,200.0	80	1,768	115.0	105.0	120.0	116.0	108.0
1,125.0	75	1,662	114.0	104.0	119.0	115.0	107.0
1,050.0	70	1,556	114.0	104.0	119.0	115.0	107.0
900.0	60	1,349	112.0	103.0	117.0	113.0	105.0
750.0	50	1,144	111.0	101.0	116.0	112.0	104.0
600.0	40	940	110.0	100.0	115.0	111.0	103.0
450.0	30	736	108.0	99.0	113.0	109.0	101.0
375.0	25	632	108.0	98.0	113.0	109.0	101.0
300.0	20	527	107.0	97.0	112.0	108.0	100.0
150.0	10	312	105.0	95.0	110.0	106.0	98.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:1.5 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	108.0	109.0	109.0	107.0
1,350.0	90	1,983	107.0	108.0	108.0	106.0
1,200.0	80	1,768	106.0	107.0	107.0	105.0
1,125.0	75	1,662	106.0	107.0	107.0	105.0
1,050.0	70	1,556	105.0	106.0	106.0	104.0
900.0	60	1,349	104.0	105.0	105.0	103.0
750.0	50	1,144	103.0	104.0	104.0	102.0
600.0	40	940	101.0	103.0	102.0	101.0
450.0	30	736	100.0	101.0	101.0	99.0
375.0	25	632	99.0	100.0	100.0	98.0
300.0	20	527	98.0	99.0	99.0	97.0
150.0	10	312	96.0	97.0	97.0	95.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	103.0	95.0	111.0	106.0	97.0
1,350.0	90	1,983	102.0	94.0	110.0	104.0	96.0
1,200.0	80	1,768	101.0	93.0	109.0	103.0	95.0
1,125.0	75	1,662	101.0	92.0	109.0	103.0	94.0
1,050.0	70	1,556	100.0	92.0	108.0	102.0	94.0
900.0	60	1,349	99.0	90.0	107.0	101.0	93.0
750.0	50	1,144	98.0	89.0	106.0	100.0	91.0
600.0	40	940	96.0	88.0	104.0	99.0	90.0
450.0	30	736	95.0	86.0	103.0	97.0	89.0
375.0	25	632	94.0	86.0	102.0	96.0	88.0
300.0	20	527	93.0	85.0	101.0	96.0	87.0
150.0	10	312	91.0	83.0	99.0	93.0	85.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	95.0	96.0	96.0	93.0
1,350.0	90	1,983	94.0	95.0	95.0	92.0
1,200.0	80	1,768	93.0	94.0	94.0	91.0
1,125.0	75	1,662	93.0	93.0	93.0	91.0
1,050.0	70	1,556	92.0	93.0	93.0	90.0
900.0	60	1,349	91.0	92.0	92.0	89.0
750.0	50	1,144	90.0	91.0	90.0	88.0
600.0	40	940	88.0	89.0	89.0	86.0
450.0	30	736	87.0	88.0	88.0	85.0
375.0	25	632	86.0	87.0	87.0	84.0

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
300.0	20	527	85.0	86.0	86.0	83.0
150.0	10	312	83.0	84.0	84.0	81.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	97.0	88.0	105.0	99.0	90.0
1,350.0	90	1,983	96.0	87.0	104.0	98.0	89.0
1,200.0	80	1,768	95.0	86.0	103.0	97.0	88.0
1,125.0	75	1,662	94.0	85.0	102.0	96.0	88.0
1,050.0	70	1,556	94.0	85.0	102.0	96.0	87.0
900.0	60	1,349	92.0	84.0	100.0	95.0	86.0
750.0	50	1,144	91.0	83.0	99.0	93.0	85.0
600.0	40	940	90.0	81.0	98.0	92.0	83.0
450.0	30	736	88.0	80.0	96.0	91.0	82.0
375.0	25	632	88.0	79.0	96.0	90.0	81.0
300.0	20	527	87.0	78.0	95.0	89.0	80.0
150.0	10	312	85.0	76.0	93.0	87.0	78.0

EXHAUST:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	89.0	89.0	89.0	86.0
1,350.0	90	1,983	88.0	88.0	88.0	85.0
1,200.0	80	1,768	87.0	87.0	87.0	84.0
1,125.0	75	1,662	86.0	87.0	87.0	84.0
1,050.0	70	1,556	86.0	86.0	86.0	83.0
900.0	60	1,349	84.0	85.0	85.0	82.0
750.0	50	1,144	83.0	84.0	84.0	81.0
600.0	40	940	82.0	83.0	82.0	80.0
450.0	30	736	80.0	81.0	81.0	78.0
375.0	25	632	80.0	80.0	80.0	77.0
300.0	20	527	79.0	79.0	79.0	76.0
150.0	10	312	77.0	77.0	77.0	74.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	104.0	91.0	99.0	100.0	98.0
1,350.0	90	1,983	104.0	91.0	99.0	100.0	98.0
1,200.0	80	1,768	104.0	91.0	99.0	100.0	98.0
1,125.0	75	1,662	104.0	91.0	99.0	100.0	98.0
1,050.0	70	1,556	104.0	91.0	99.0	100.0	98.0
900.0	60	1,349	104.0	91.0	99.0	100.0	98.0
750.0	50	1,144	104.0	91.0	99.0	100.0	98.0
600.0	40	940	104.0	91.0	99.0	100.0	98.0
450.0	30	736	104.0	91.0	99.0	100.0	98.0
375.0	25	632	104.0	91.0	99.0	100.0	98.0
300.0	20	527	104.0	91.0	99.0	100.0	98.0
150.0	10	312	104.0	91.0	99.0	100.0	98.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:1 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	99.0	100.0	98.0	102.0
1,350.0	90	1,983	99.0	100.0	98.0	102.0
1,200.0	80	1,768	99.0	100.0	98.0	102.0
1,125.0	75	1,662	99.0	100.0	98.0	102.0

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
1,050.0	70	1,556	99.0	100.0	98.0	102.0
900.0	60	1,349	99.0	100.0	98.0	102.0
750.0	50	1,144	99.0	100.0	98.0	102.0
600.0	40	940	99.0	100.0	98.0	102.0
450.0	30	736	99.0	100.0	98.0	102.0
375.0	25	632	99.0	100.0	98.0	102.0
300.0	20	527	99.0	100.0	98.0	102.0
150.0	10	312	99.0	100.0	98.0	102.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	92.0	80.0	87.0	88.0	86.0
1,350.0	90	1,983	92.0	80.0	87.0	88.0	86.0
1,200.0	80	1,768	92.0	80.0	87.0	88.0	86.0
1,125.0	75	1,662	92.0	80.0	87.0	88.0	86.0
1,050.0	70	1,556	92.0	80.0	87.0	88.0	86.0
900.0	60	1,349	92.0	80.0	87.0	88.0	86.0
750.0	50	1,144	92.0	80.0	87.0	88.0	86.0
600.0	40	940	92.0	80.0	87.0	88.0	86.0
450.0	30	736	92.0	80.0	87.0	88.0	86.0
375.0	25	632	92.0	80.0	87.0	88.0	86.0
300.0	20	527	92.0	80.0	87.0	88.0	86.0
150.0	10	312	92.0	80.0	87.0	88.0	86.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:7 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	87.0	88.0	86.0	90.0
1,350.0	90	1,983	87.0	88.0	86.0	90.0
1,200.0	80	1,768	87.0	88.0	86.0	90.0
1,125.0	75	1,662	87.0	88.0	86.0	90.0
1,050.0	70	1,556	87.0	88.0	86.0	90.0
900.0	60	1,349	87.0	88.0	86.0	90.0
750.0	50	1,144	87.0	88.0	86.0	90.0
600.0	40	940	87.0	88.0	86.0	90.0
450.0	30	736	87.0	88.0	86.0	90.0
375.0	25	632	87.0	88.0	86.0	90.0
300.0	20	527	87.0	88.0	86.0	90.0
150.0	10	312	87.0	88.0	86.0	90.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	63 HZ	125 HZ	250 HZ	500 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	87.0	74.0	81.0	82.0	80.0
1,350.0	90	1,983	87.0	74.0	81.0	82.0	80.0
1,200.0	80	1,768	87.0	74.0	81.0	82.0	80.0
1,125.0	75	1,662	87.0	74.0	81.0	82.0	80.0
1,050.0	70	1,556	87.0	74.0	81.0	82.0	80.0
900.0	60	1,349	87.0	74.0	81.0	82.0	80.0
750.0	50	1,144	87.0	74.0	81.0	82.0	80.0
600.0	40	940	87.0	74.0	81.0	82.0	80.0
450.0	30	736	87.0	74.0	81.0	82.0	80.0
375.0	25	632	87.0	74.0	81.0	82.0	80.0
300.0	20	527	87.0	74.0	81.0	82.0	80.0
150.0	10	312	87.0	74.0	81.0	82.0	80.0

MECHANICAL:SOUND PRESSURE(OBCF) DISTANCE:15 METER

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	2000 HZ	4000 HZ	8000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)
1,500.0	100	2,206	81.0	83.0	80.0	84.0
1,350.0	90	1,983	81.0	83.0	80.0	84.0
1,200.0	80	1,768	81.0	83.0	80.0	84.0
1,125.0	75	1,662	81.0	83.0	80.0	84.0
1,050.0	70	1,556	81.0	83.0	80.0	84.0
900.0	60	1,349	81.0	83.0	80.0	84.0
750.0	50	1,144	81.0	83.0	80.0	84.0
600.0	40	940	81.0	83.0	80.0	84.0
450.0	30	736	81.0	83.0	80.0	84.0
375.0	25	632	81.0	83.0	80.0	84.0
300.0	20	527	81.0	83.0	80.0	84.0
150.0	10	312	81.0	83.0	80.0	84.0

Emissions Data Top

Units Filter All Units

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER		EKW BHP	1,500.0 2,206	1,125.0 1,662	750.0 1,144	375.0 632	150.0 312
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)		G/HR	11,615	5,877	3,912	2,972	2,290
TOTAL CO		G/HR	1,019	634	898	1,060	1,024
TOTAL HC		G/HR	257	278	262	207	241
TOTAL CO2		KG/HR	1,063	828	584	342	198
PART MATTER		G/HR	67.7	68.8	104.8	127.8	77.9
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,303.5	1,458.7	1,352.5	1,792.1	2,400.6
TOTAL CO	(CORR 5% O2)	MG/NM3	230.3	181.4	384.5	802.1	1,284.5
TOTAL HC	(CORR 5% O2)	MG/NM3	50.3	69.9	90.2	128.2	263.2
PART MATTER	(CORR 5% O2)	MG/NM3	12.6	16.3	37.9	76.2	80.1
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	854.8	541.3	501.9	665.0	890.8
TOTAL CO	(CORR 15% O2)	MG/NM3	85.5	67.3	142.7	297.6	476.6
TOTAL HC	(CORR 15% O2)	MG/NM3	18.7	25.9	33.5	47.6	97.7
PART MATTER	(CORR 15% O2)	MG/NM3	4.7	6.0	14.1	28.3	29.7
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,122	711	659	873	1,169
TOTAL CO	(CORR 5% O2)	PPM	184	145	308	642	1,028
TOTAL HC	(CORR 5% O2)	PPM	94	130	168	239	491
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	416	264	244	324	434
TOTAL CO	(CORR 15% O2)	PPM	68	54	114	238	381
TOTAL HC	(CORR 15% O2)	PPM	35	48	62	89	182
TOTAL NOX (AS NO2)		G/HP-HR	5.32	3.57	3.45	4.73	7.39
TOTAL CO		G/HP-HR	0.47	0.39	0.79	1.69	3.30
TOTAL HC		G/HP-HR	0.12	0.17	0.23	0.33	0.78
PART MATTER		G/HP-HR	0.03	0.04	0.09	0.20	0.25
TOTAL NOX (AS NO2)		G/KW-HR	7.13	4.79	4.62	6.35	9.92
TOTAL CO		G/KW-HR	0.63	0.52	1.06	2.26	4.43
TOTAL HC		G/KW-HR	0.16	0.23	0.31	0.44	1.04
PART MATTER		G/KW-HR	0.04	0.06	0.12	0.27	0.34
TOTAL NOX (AS NO2)		LB/HR	25.61	12.96	8.62	6.55	5.05
TOTAL CO		LB/HR	2.25	1.40	1.98	2.34	2.26
TOTAL HC		LB/HR	0.57	0.61	0.58	0.46	0.53
TOTAL CO2		LB/HR	2,344	1,825	1,289	753	436
PART MATTER		LB/HR	0.15	0.15	0.23	0.28	0.17
OXYGEN IN EXH		%	10.9	12.0	12.7	13.7	15.7
DRY SMOKE OPACITY		%	1.0	1.3	2.9	5.0	3.0
BOSCH SMOKE NUMBER			0.77	0.79	1.02	1.30	1.04

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN ENGINE POWER		EKW BHP	1,500.0 2,206	1,125.0 1,662	750.0 1,144	375.0 632	150.0 312
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)		G/HR	13,938	7,053	4,695	3,567	2,748
TOTAL CO		G/HR	1,834	1,142	1,617	1,908	1,843
TOTAL HC		G/HR	341	370	348	276	320
PART MATTER		G/HR	94.8	96.4	146.7	178.9	109.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,764.3	1,750.5	1,623.0	2,150.5	2,880.8
TOTAL CO	(CORR 5% O2)	MG/NM3	414.5	326.5	692.0	1,443.8	2,312.1
TOTAL HC	(CORR 5% O2)	MG/NM3	66.9	93.0	119.9	170.5	350.1
PART MATTER	(CORR 5% O2)	MG/NM3	17.7	22.8	53.1	106.7	112.2

GENSET POWER WITH FAN		**EKW**	**1,500.0**	**1,125.0**	**750.0**	**375.0**	**150.0**
ENGINE POWER		**BHP**	**2,206**	**1,662**	**1,144**	**632**	**312**
PERCENT LOAD		**%**	**100**	**75**	**50**	**25**	**10**
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	1,025.7	649.6	602.2	798.0	1,069.0
TOTAL CO	(CORR 15% O2)	MG/NM3	153.8	121.2	256.8	535.8	857.9
TOTAL HC	(CORR 15% O2)	MG/NM3	24.8	34.5	44.5	63.3	129.9
PART MATTER	(CORR 15% O2)	MG/NM3	6.6	8.5	19.7	39.6	41.6
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,346	853	791	1,047	1,403
TOTAL CO	(CORR 5% O2)	PPM	332	261	554	1,155	1,850
TOTAL HC	(CORR 5% O2)	PPM	125	174	224	318	654
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	500	316	293	389	521
TOTAL CO	(CORR 15% O2)	PPM	123	97	205	429	686
TOTAL HC	(CORR 15% O2)	PPM	46	64	83	118	243
TOTAL NOX (AS NO2)		G/HP-HR	6.38	4.28	4.14	5.68	8.87
TOTAL CO		G/HP-HR	0.84	0.69	1.42	3.04	5.95
TOTAL HC		G/HP-HR	0.16	0.22	0.31	0.44	1.03
PART MATTER		G/HP-HR	0.04	0.06	0.13	0.28	0.35
TOTAL NOX (AS NO2)		G/KW-HR	8.56	5.75	5.55	7.62	11.90
TOTAL CO		G/KW-HR	1.13	0.93	1.91	4.07	7.98
TOTAL HC		G/KW-HR	0.21	0.30	0.41	0.59	1.39
PART MATTER		G/KW-HR	0.06	0.08	0.17	0.38	0.47
TOTAL NOX (AS NO2)		LB/HR	30.73	15.55	10.35	7.86	6.06
TOTAL CO		LB/HR	4.04	2.52	3.56	4.21	4.06
TOTAL HC		LB/HR	0.75	0.82	0.77	0.61	0.71
PART MATTER		LB/HR	0.21	0.21	0.32	0.39	0.24

Regulatory Information Top

EPA EMERGENCY STATIONARY **2011 - ----**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data Top

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,096	2,206
1,000	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,162	2,074	2,206
2,000	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,176	2,118	2,007	2,206
3,000	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,173	2,135	2,098	2,052	1,919	2,206
4,000	2,201	2,201	2,201	2,201	2,201	2,171	2,132	2,094	2,057	2,021	1,963	1,831	2,201
5,000	2,129	2,129	2,129	2,129	2,129	2,092	2,054	2,017	1,982	1,947	1,875	1,743	2,129
6,000	2,059	2,059	2,059	2,059	2,053	2,015	1,978	1,943	1,909	1,876	1,765	1,677	2,059
7,000	1,992	1,992	1,992	1,992	1,976	1,940	1,904	1,870	1,838	1,787	1,677	1,588	1,992
8,000	1,927	1,927	1,927	1,927	1,902	1,867	1,833	1,800	1,769	1,699	1,610	1,522	1,927
9,000	1,865	1,865	1,865	1,865	1,831	1,797	1,764	1,733	1,699	1,610	1,522	1,412	1,865
10,000	1,805	1,805	1,805	1,795	1,761	1,729	1,697	1,667	1,610	1,522	1,368	1,279	1,805
11,000	1,522	1,522	1,522	1,522	1,522	1,522	1,522	1,522	1,434	1,324	1,213	1,125	1,522
12,000	1,478	1,478	1,478	1,478	1,478	1,478	1,478	1,390	1,279	1,169	1,081	993	1,478
13,000	1,434	1,434	1,434	1,434	1,434	1,434	1,346	1,235	1,147	1,037	971	882	1,434
14,000	1,390	1,390	1,390	1,390	1,390	1,279	1,191	1,103	1,015	927	860	794	1,390
15,000	1,346	1,346	1,346	1,346	1,235	1,147	1,059	971	882	816	772	728	1,346

Cross Reference Top

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
4577179	LL1861	5084278	GS656	LS	CT200463	
4577179	LL1861	5157729	PG242	-	LYH00001	

Supplementary Data Top

Type	Classification	Performance Number
SOUND	SOUND PRESSURE	DM8779

Performance Parameter Reference Top

Parameters Reference: DM9600 - 15

PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION: Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS: Power +/- 3% Torque +/- 3% Exhaust stack temperature +/- 8% Inlet airflow +/- 5% Intake manifold pressure-gage +/- 10% Exhaust flow +/- 6% Specific fuel consumption +/- 3% Specific fuel consumption (C7-C18) +/- 4% Fuel rate +/- 5% Specific DEF consumption +/- 3% DEF rate +/- 5% Heat rejection +/- 5% Heat rejection exhaust only +/- 10% Heat rejection CEM only +/- 10%
Heat Rejection values based on using treated water.
Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
On 3500 and C175 engines, at speeds below Peak Torque these values are provided for reference only, and may not meet the tolerance listed.
These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS: Heat rejection +/- 10% Heat rejection to Atmosphere +/- 50% Heat rejection to Lube Oil +/- 20% Heat rejection to Aftercooler +/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS: Torque +/- 0.5% Speed +/- 0.2% Fuel flow +/- 1.0% Temperature +/- 2.0 C degrees Intake manifold pressure +/- 0.1 kPa
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR FOR 3500 ENGINES AND SMALLER SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.
FOR 3600 ENGINES Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL DIESEL Reference fuel is #2 distillate diesel with a 35API gravity; A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 15 deg C (59 deg F), where the density is 850 G/Liter (7.0936 Lbs/Gal).
GAS Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.
Standard temperature values versus altitude could be seen on TM2001.
When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.
Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for

atmospheric pressure and temperature conditions outside the values defined, see TM2001.
Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.
Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS: Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

WET & DRY EXHAUST/EMISSIONS DESCRIPTION: Wet - Total exhaust flow or concentration of total exhaust flow Dry - Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

EMISSIONS DEFINITIONS: Emissions : DM1176

EMISSION CYCLE DEFINITIONS
1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS: Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS: 3500: EM1500

RATING DEFINITIONS: Agriculture : TM6008
Fire Pump : TM6009
Generator Set : TM6035
Generator (Gas) : TM6041
Industrial Diesel : TM6010
Industrial (Gas) : TM6040
Irrigation : TM5749
Locomotive : TM6037
Marine Auxiliary : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039
On-Highway Truck : TM6038

SOUND DEFINITIONS: Sound Power : DM8702
Sound Pressure : TM7080

Date Released : 03/12/24

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AIR INTAKE SYSTEM		
THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.		
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH CLEAN ELEMENT	15	IN-H20
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH DIRTY ELEMENT	25	IN-H20
MAXIMUM PRESSURE DROP FROM COMPRESSOR OUTLET TO MANIFOLD INLET (OR MIXER INLET FOR EGR)	4.4	IN-HG
CHARGE AIR FLOW AT RATED SPEED	337.7	LB/MIN
TURBO COMPRESSOR OUTLET TEMPERATURE AT RATED SPEED	451	DEG F
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET	59.5	LB
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET (AIR SHUT OFF INCLUDED)	17.6	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON AIR INLET	9.6	LB-FT
MAXIMUM ALLOWABLE STATIC WEIGHT ON TURBO OUTLET CONNECTION	0	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON TURBO OUTLET CONNECTION	0	LB-FT
COOLING SYSTEM		
ENGINE ONLY COOLANT CAPACITY	41.4	GAL
MAXIMUM ALLOWABLE JACKET WATER OUTLET TEMPERATURE	210	DEG F
REGULATOR LOCATION FOR JW (HT) CIRCUIT	OUTLET	
MAXIMUM UNINTERRUPTED FILL RATE	5.0	G/MIN
ENGINE SPEC SYSTEM		
CYLINDER ARRANGEMENT	VEE	
NUMBER OF CYLINDERS	12	
CYLINDER BORE DIAMETER	6.7	IN
PISTON STROKE	7.5	IN
TOTAL CYLINDER DISPLACEMENT	3161	CU IN
STANDARD CRANKSHAFT ROTATION FROM FLYWHEEL END	CCW	
STANDARD CYLINDER FIRING ORDER	1-12-9-4-5-8-11-2-3-10-7-6	
NUMBER 1 CYLINDER LOCATION	RIGHT FRONT	
STROKES/COMBUSTION CYCLE	4	
EXHAUST SYSTEM		
THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.		
MAXIMUM ALLOWABLE SYSTEM BACK PRESSURE	27	IN-H20
MANIFOLD TYPE	DRY	
MAXIMUM ALLOWABLE STATIC WEIGHT ON EXHAUST CONNECTION	63.9	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON EXHAUST CONNECTION	31.7	LB-FT
FUEL SYSTEM		

MAXIMUM FUEL FLOW FROM TRANSFER PUMP TO ENGINE	332.9	G/HR
MAXIMUM ALLOWABLE FUEL SUPPLY LINE RESTRICTION	8.9	IN-HG
MAXIMUM ALLOWABLE FUEL TEMPERATURE AT TRANSFER PUMP INLET	151	DEG F
MAXIMUM FUEL FLOW TO RETURN LINE FROM ENGINE	322.3	G/HR
MAXIMUM ALLOWABLE FUEL RETURN LINE RESTRICTION	8.0	IN-HG
NORMAL FUEL PRESSURE IN A CLEAN SYSTEM	60.2	PSI
FUEL SYSTEM TYPE	EUI	
MAXIMUM TRANSFER PUMP PRIMING LIFT WITHOUT PRIMING PUMP	12.1	FT
MAXIMUM HEAT REJECTION TO FUEL	540	BTU/MIN
LUBE SYSTEM		
CRANKCASE VENTILATION TYPE	TO ATM	
MOUNTING SYSTEM		
CENTER OF GRAVITY LOCATION - X DIMENSION - FROM REAR FACE OF BLOCK - (REFERENCE TM7077)	37.4	IN
CENTER OF GRAVITY LOCATION - Y DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	9.8	IN
CENTER OF GRAVITY LOCATION - Z DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	0.0	IN
MASS MOMENT OF INERTIA - X AXIS	8851	LB IN SEC2
MASS MOMENT OF INERTIA - Y AXIS	61955	LB IN SEC2
MASS MOMENT OF INERTIA - Z AXIS	61955	LB IN SEC2
STARTING SYSTEM		
MINIMUM CRANKING SPEED REQUIRED FOR START	120	RPM

GENERATOR DATA

OCTOBER 01, 2025

For Help Desk Phone Numbers Click here

Selected Model

Engine: 3512	**Generator Frame:** 1622	**Genset Rating (kW):** 1500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 2523932	**Genset Rating (kVA):** 1875.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 2255.3
Duty: STANDBY	**Connection:** SERIES STAR	**Application:** EPG	**Status:** Current

Version: 20232 /20232 /20232 /660451

Spec Information

Generator Specification

Frame: 1622	**Type:** SR5	**No. of Bearings:** 1
Winding Type: FORM WOUND		**Flywheel:** 21.0
Connection: SERIES STAR		**Housing:** 00
Phases: 3		**No. of Leads:** 6
Poles: 4		**Wires per Lead:** 4
Sync Speed: 1800		**Generator Pitch:** 0.67

Generator Efficiency

Per Unit Load	kW	Efficiency %
0.25	375.0	90.5
0.5	750.0	93.8
0.75	1125.0	94.7
1.0	1500.0	94.7

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X''_d	0.1204	0.0148
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.1506	0.0185
TRANSIENT - SATURATED X'_d	0.1986	0.0244
SYNCHRONOUS - DIRECT AXIS X_d	2.0312	0.2496
SYNCHRONOUS - QUADRATURE AXIS X_q	1.2191	0.1498
NEGATIVE SEQUENCE X_2	0.1351	0.0166
ZERO SEQUENCE X_0	0.0285	0.0035

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	1.6600
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.1910
OPEN CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_{d0}	0.0200
SHORT CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_d	0.0120
OPEN CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_{q0}	0.0760
SHORT CIRCUIT SUBSTRANSIENT - QUADRATURE AXIS T''_q	0.0110
EXCITER TIME CONSTANT T_e	0.0940
ARMATURE SHORT CIRCUIT T_a	0.0300

Short Circuit Ratio: 0.57	Stator Resistance = 0.002 Ohms	Field Resistance = 0.427 Ohms

Voltage Regulation

Voltage level adjustment: +/-	5.0%
Voltage regulation, steady state: +/-	0.5%
Voltage regulation with 3% speed change: +/-	0.5%
Waveform deviation line - line, no load: less than	2.0%
Telephone influence factor: less than	50

Generator Excitation

	No Load	Full Load, (rated) pf	
		Series	Parallel
Excitation voltage:	15.33 Volts	50.69 Volts	Volts
Excitation current	1.6 Amps	4.35 Amps	Amps

Selected Model

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Version: 20232 /20232 /20232 /660451

Generator Mechanical Information

Center of Gravity

Dimension X	-897.6 mm	-35.3 IN.
Dimension Y	0.0 mm	0.0 IN.
Dimension Z	0.0 mm	0.0 IN.

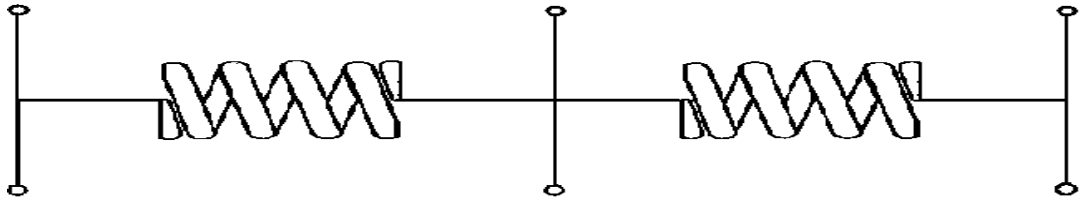
- "X" is measured from driven end of generator and parallel to rotor. Towards engine fan is positive. See General Information for details
- "Y" is measured vertically from rotor center line. Up is positive.
- "Z" is measured to left and right of rotor center line. To the right is positive.

Generator WT = 3480 kg * Rotor WT = 1346 kg * Stator WT = 1697 kg
7,672 LB 2,967 LB 3,741 LB

Rotor Balance = 0.0508 mm deflection PTP

Overspeed Capacity = 125% of synchronous speed

Generator Torsional Data



J1 = Coupling and Fan | **J2 = Rotor** | **J3 = Exciter End**

TOTAL J = J1 + J2 + J3

K1 = Shaft Stiffness between J1 + J2 (Diameter 1)

K2 = Shaft Stiffness between J2 + J3 (Diameter 2)

J1	K1	Min Shaft Dia 1	J2	K2	Min Shaft Dia 2	J3
58.4 LB IN. s^2	245.2 MLB IN./rad	7.8 IN.	283.3 LB IN. s^2	53.2 MLB IN./rad	5.9 IN.	10.3 LB IN. s^2
6.603 N m s^2	27.7 MN m/rad	198.0 mm	32.005 N m s^2	6.01 MN m/rad	151.0 mm	1.161 N m s^2

Total J

352.0 LB IN. s^2

39.769 N m s^2

Selected Model

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Version: 20232 /20232 /20232 /660451

Generator Cooling Requirements - Temperature - Insulation Data

Cooling Requirements:		Temperature Data: (Ambient 40 ^{0}C)	
Heat Dissipated:	83.9 kW	**Stator Rise:**	105.0 ^{0}C
Air Flow:	168.0 m^3/min	**Rotor Rise:**	105.0 ^{0}C

Insulation Class: H

Insulation Reg. as shipped: 100.0 MΩ minimum at 40 ^{0}C

Thermal Limits of Generator

Frequency:	60 Hz
Line to Line Voltage:	480 Volts
B BR 80/40	1750.0 kVA
F BR -105/40	1991.0 kVA
H BR - 125/40	2188.0 kVA
F PR - 130/40	2188.0 kVA
H PR - 150/40	2319.0 kVA

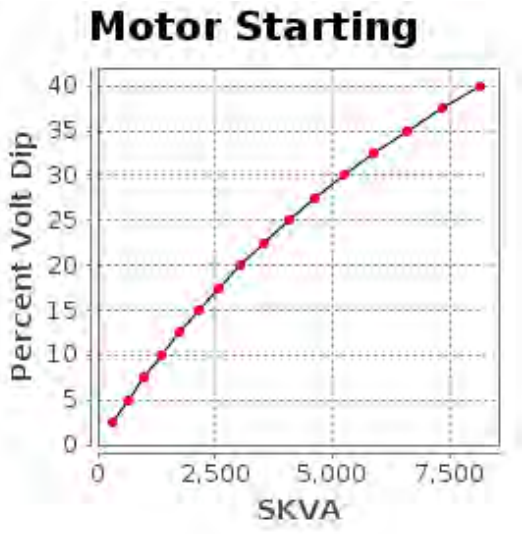
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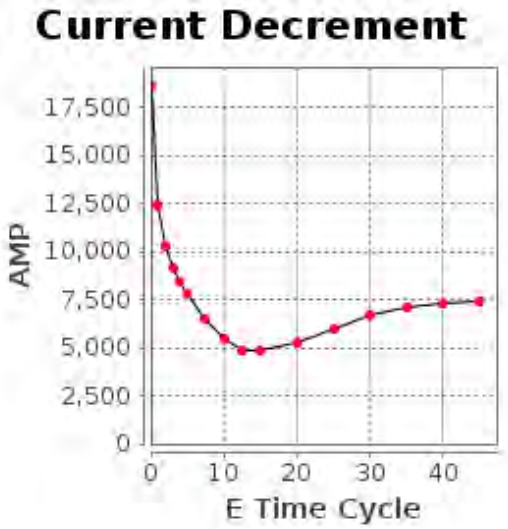
Starting Capability & Current Decrement
Motor Starting Capability (0.4 pf)

SKVA	Percent Volt Dip
313	2.5
643	5.0
991	7.5
1,358	10.0
1,746	12.5
2,157	15.0
2,593	17.5
3,056	20.0
3,549	22.5
4,075	25.0
4,637	27.5
5,239	30.0
5,886	32.5
6,583	35.0
7,335	37.5
8,150	40.0



Current Decrement Data

E Time Cycle	AMP
0.0	18,665
1.0	12,379
2.0	10,221
3.0	9,168
4.0	8,433
5.0	7,817
7.5	6,532
10.0	5,504
12.5	4,828
15.0	4,806
20.0	5,276
25.0	5,939
30.0	6,669
35.0	7,073
40.0	7,252
45.0	7,352



Instantaneous 3 Phase Fault Current: 18665 Amps **Instantaneous Line - Line Fault Current:** 15235 Amps

Instantaneous Line - Neutral Fault Current: 23750 Amps

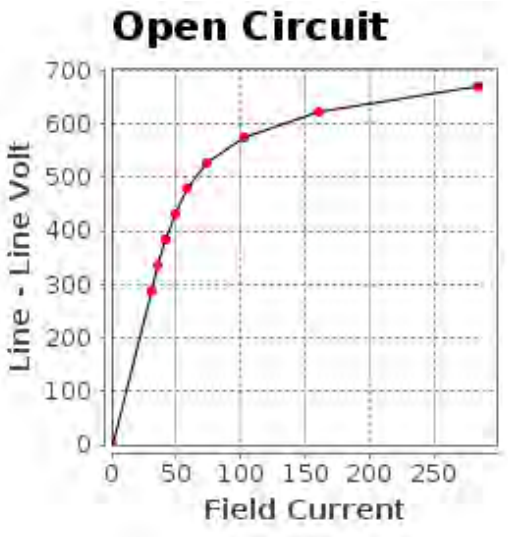
Selected Model

Engine: 3512	**Generator Frame:** 1622	**Genset Rating (kW):** 1500.0	**Line Voltage:** 480
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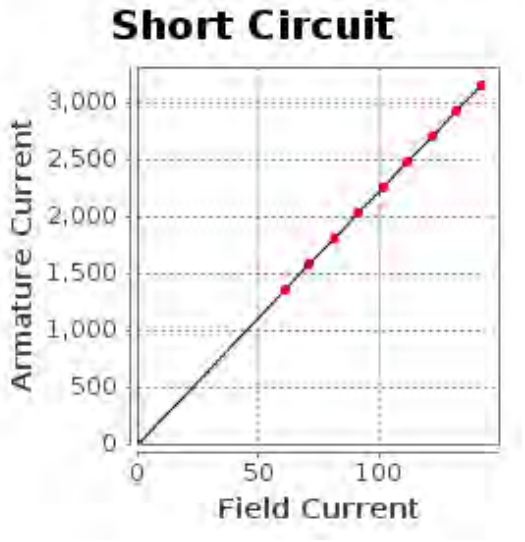
Generator Output Characteristic Curves
Open Circuit Curve

Field Current	Line - Line Volt
0.0	0
30.5	288
35.9	336
41.9	384
49.0	432
58.7	480
74.3	528
103.0	576
160.8	624
284.2	672



Short Circuit Curve

Field Current	Armature Current
0.0	0
60.9	1,353
71.0	1,579
81.2	1,804
91.3	2,030
101.5	2,255
111.6	2,481
121.8	2,706
131.9	2,932
142.1	3,157



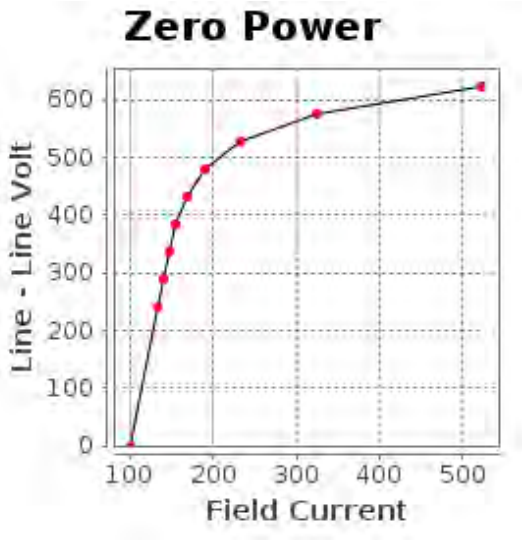
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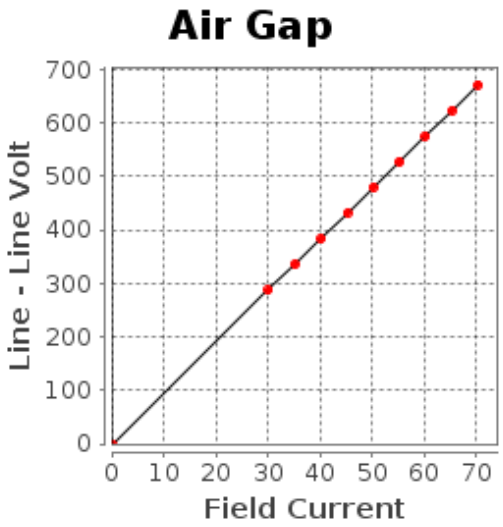
Generator Output Characteristic Curves
Zero Power Factor Curve

Field Current	Line - Line Volt
101.5	0
134.5	240
140.3	288
146.9	336
155.4	384
168.1	432
190.3	480
233.7	528
324.5	576
521.7	624



Air Gap Curve

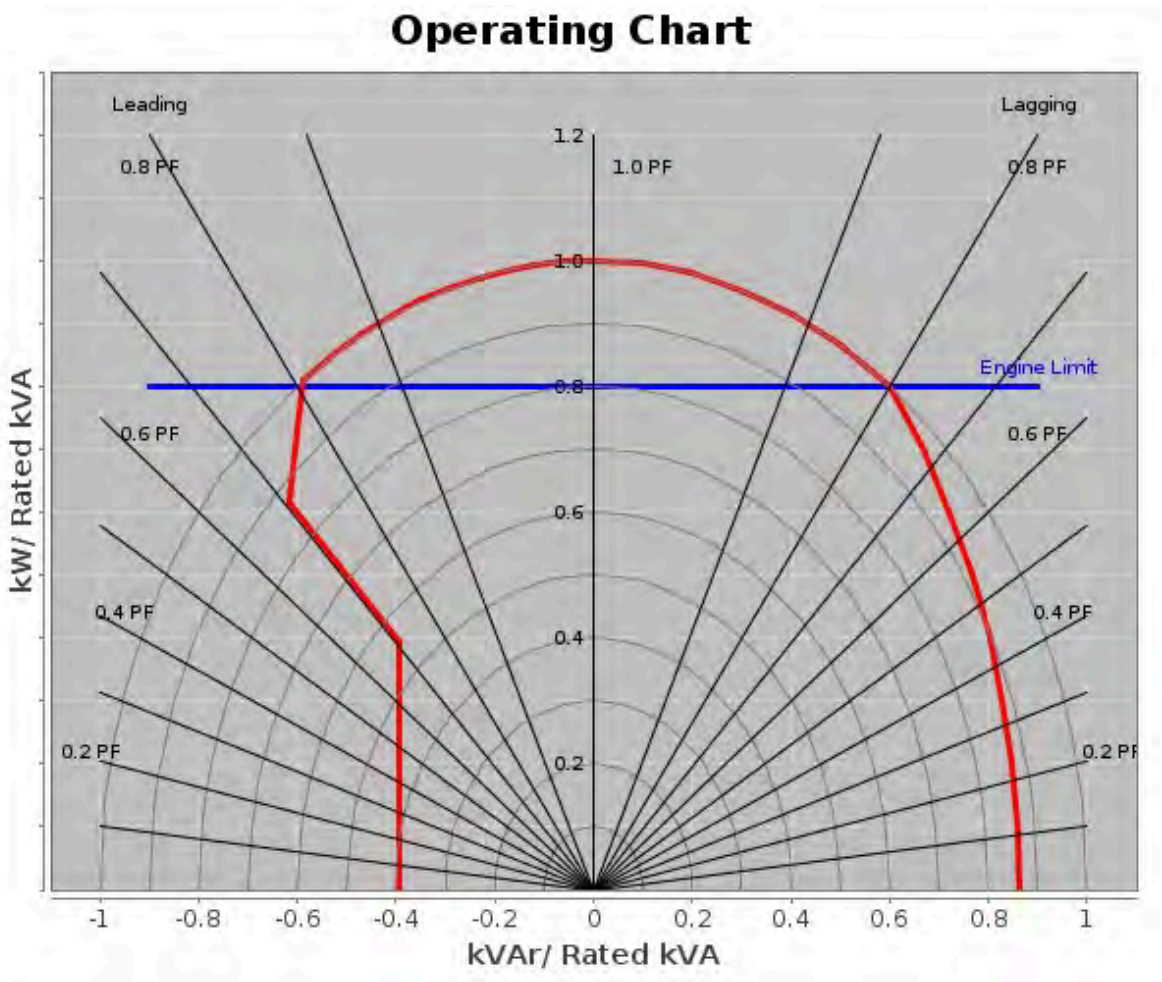
Field Current	Line - Line Volt
0.0	0
30.1	288
35.1	336
40.2	384
45.2	432
50.2	480
55.2	528
60.2	576
65.3	624
70.3	672



Selected Model

Engine: 3512 **Generator Frame:** 1622 **Genset Rating (kW):** 1500.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 2523932 **Genset Rating (kVA):** 1875.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 2255.3
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 20232 /20232 /20232 /660451

Reactive Capability Curve



Selected Model

Engine: 3512	**Generator Frame:** 1622	**Genset Rating (kW):** 1500.0	**Line Voltage:** 480
Fuel: Diesel	**Generator Arrangement:** 2523932	**Genset Rating (kVA):** 1875.0	**Phase Voltage:** 277
Frequency: 60	**Excitation Type:** Permanent Magnet	**Pwr. Factor:** 0.8	**Rated Current:** 2255.3
Duty: STANDBY	**Connection:** SERIES STAR	**Application:** EPG	**Status:** Current

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General Information

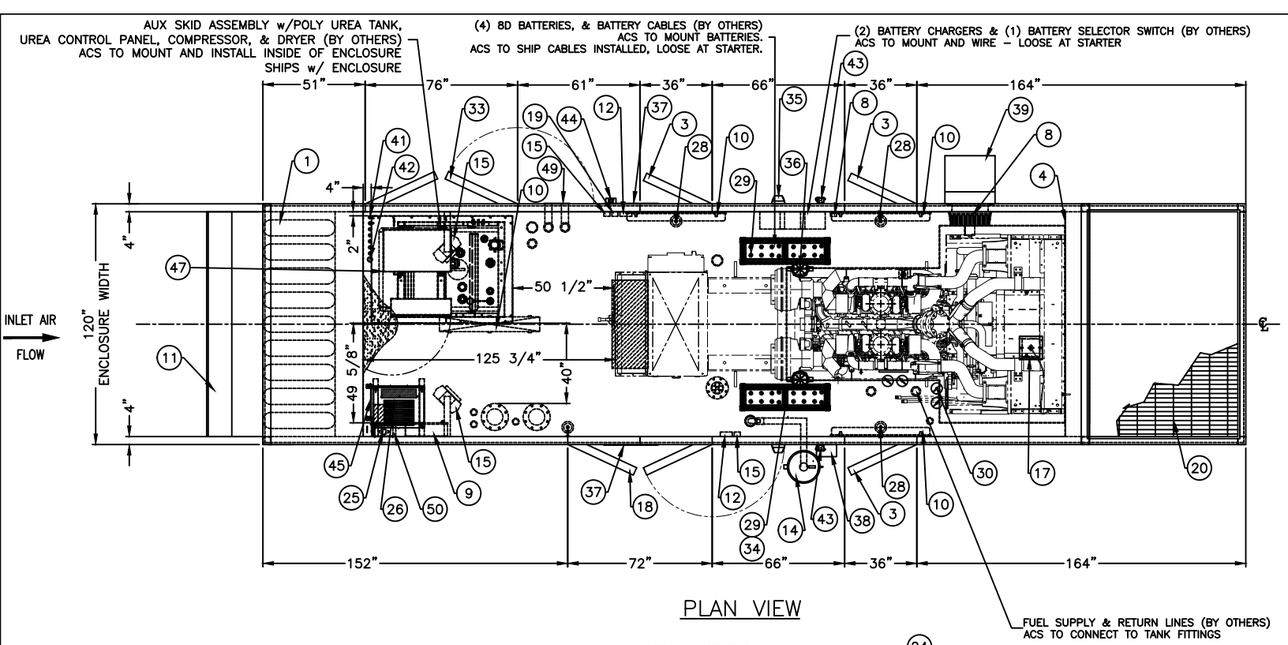
DM7825 Caterpillar SR5 Generators (50 Hz, 60 Hz)
Data for 1400, 1600, 1700, 1800 and 1900 frames Caterpillar SR5 generators built by Leroy Somer - USA and Leroy Somer □ France.

Refer to DM7821 for explanation of all generator data in Technical Marketing Information (TMI) except generator efficiency for which the explanation is given below.

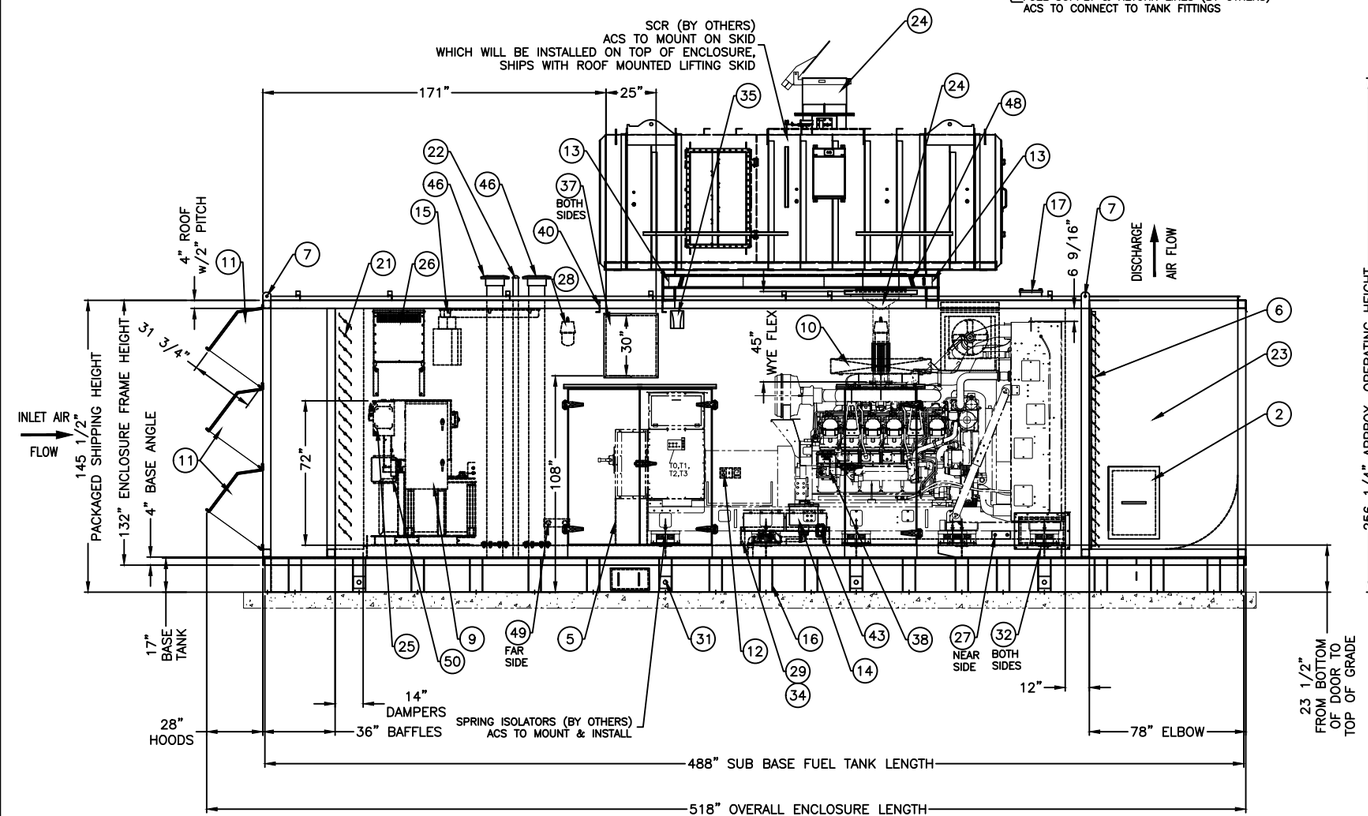
GENERATOR EFFICIENCY
Generator efficiency is the percentage of engine flywheel (or other prime mover) power that is converted into electrical output. The generator efficiency shown is calculated by the summation of all losses method, and is determined in accordance with the IEC Standard 60034. The efficiency considers only the generator. There is no consideration of engine or parasitic losses here.

Refer to DM7829 for low and medium voltage protective setting values a nd limits.

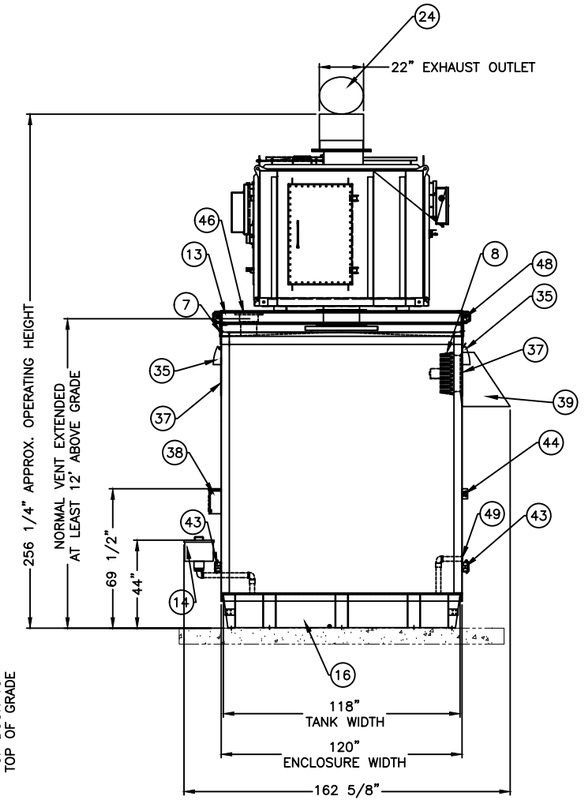
Caterpillar Confidential: **Green**
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Web Master(s): PSG Web Based Systems Support
Current Date: 10/1/2025, 3:19:56 PM
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PLAN VIEW



ELEVATION VIEW



END VIEW

- ☐ APPROVED AS IS – Manufacturing may proceed.
- ☐ APPROVED WITH NOTED CHANGES – Resubmit drawing; manufacturing may proceed.
- ☐ NOT APPROVED – Correct drawing as noted and resubmit for approval before manufacturing begins.

BY: _____ DATE: _____

COMPANY: _____

RETURNED APPROVAL DRAWINGS WITH SIGNATURE REQUIRED BEFORE ACS WILL BEGIN MANUFACTURING PROCESS

ACS BILL OF MATERIAL

ITEM	QTY	DESCRIPTION
1	9	BAFFLE PANELS WITH MINERAL WOOL
2	1	MAN WAY ACCESS PANEL
3	3	36" X 78" SINGLE DOOR (SINGLE SEAL) & (BOND STRAP FROM ENCLOSURE DOOR TO DOOR FRAME)
4	1	RADIATOR FLASHING & TRIM FLASHING
5	1	SKIRTING, FROM BOTTOM OF BREAKER CAN TO TOP OF TANK
6	1	DISCHARGE GRAVITY BACKDRAFT DAMPER (CBD2)
7	4	ENCLOSURE LIFTING LUG (DESIGNED FOR ENCLOSURE REMOVAL ONLY)
8	1	2400 CFM VENT FAN w/ DAMPERS & T–STAT
9	1	120/208VAC, PANELBOARD, 3PH
10	4	LED LIGHT (4')
11	3	INTAKE HOOD ASSEMBLY
12	2	3–WAY LIGHT SWITCH/DUPLEX RECEPTACLE w/ WEATHERPROOF COVER
13	1	ROOF SKID FOR SCR – ACS TO MOUNT SCR TO SKID AND SHIP AS ASSEMBLY
14	1	7–1/2" GALLONS SPILL BUCKET w/ DRAIN
15	2	5KW SPACE HEATER w/ T–STAT
16	1	U.L. 142 SUB BASE FUEL TANK
17	1	RADIATOR CAP ACCESS HATCH
18	1	72" X 78" DOUBLE DOOR (SINGLE SEAL) & (BOND STRAP FROM ENCLOSURE DOOR TO DOOR FRAME)
19	1	0–60 MIN TIMER SWITCH (FOR DC LIGHTS)
20	1	BIRD SCREEN
21	1	DAMPERS, MOTORIZED INLET (CD–356)
22	1	NORMAL VENT, FUEL TANK – EXTENDED OUTSIDE OF ENCLOSURE TO ROOF LINE AT LEAST 12' ABOVE GRADE. SHIPPED LOOSE & INSTALLED BY OTHERS
23	1	INTERNAL DISCHARGE ELBOW (INSULATED)
24	1	COMPLETE EXHAUST SYSTEM INCLUDING – EXHAUST WYE FLEX ASSEMBLY, TAIL PIPE, STAINLESS STEEL EXHAUST WEATHER COVER, RAIN CAP, NBG KIT, & REMOVABLE BLANKETS (COVERING WYE FLEX SPOOL ASSEMBLY, & FLANGES)
25	1	480VAC DISCONNECT, FUESED, 60A
26	1	30KVA TRANSFORMER, 480–120/208VAC, 3PH
27	2	1" COUPLING, OIL & WATER DRAIN, EXTENDED TO ENCLOSURE WALL (BALL VALVE ON THE INSIDE, PLUGGED ON THE OUTSIDE)
28	4	24VDC LED LIGHT w/ GLOBE & GUARD
29	2	BATTERY RACK – ANCHORED TO TOP OF TANK – CARBON STEEL – PAINTED – EACH RACK TO HOLD (2) 8D BATTERIES
30	2	RACOR FILTER ASSEMBLY – ACS TO MOUNT & PLUMB (FLEX HOSES) TO ENGINE CAPABLE OF BEING HOT SWAPPABLE
31	8	TANK LIFTING LUG (DESIGNED TO LIFT ENTIRE PACKAGE)
32	2	SIDE ACCESS w/ REMOVABLE COVER PLATE (FOR ISOLATORS)
33	1	76" X 78" DOUBLE DOOR (SINGLE SEAL) & (BOND STRAP FROM ENCLOSURE DOOR TO DOOR FRAME)
34	1	BATTERY CABLES ARE ACS SUPPLIED AND TO BE INSTALLED & WIRED BY ACS. ACS TO PROVIDE & INSTALL THE 4/0 CABLE SPECIFIED.
35	2	EXTERIOR LED LIGHT w/ 1 PHOTOCELL FOR ALL LIGHTS
36	1	CCV8000 KIT WITH HOSE KITS ACS TO INSTALL ON ENGINE PRIOR TO SHIPMENT
37	2	20"x30" REMOVABLE GLAND PLATE w/ RAIN LIP (FOR BUSS DUCT)
38	1	FUEL TANK ANNUNCIATOR w/ CRITICAL LOW
39	1	HOOD FOR VENT FAN (REMOVABLE & SHIPS LOOSE) w/ RAIN LIP ABOVE OPENING
40	2	INTERNAL CHANNEL (FOR CUSTOMER ELECTRICAL SUPPORT USE)
41	7	1" SCH 40 PIPE (CAPPED FOR FUTURE SCR USE)
42	1	2" SCH 40 PIPE (CAPPED FOR FUTURE SCR USE)
43	2	DUPLEX RECEPTACLE w/ IN–USE WEATHERPROOF COVER
44	1	E–STOP w/ BREAK GLASS TYPE
45	1	S/S GROUNDING BAR (FOR GROUNDING, PANELBOARD, TRANSFORMER, GENSET ALTERNATOR, GENSET FRAME, FUEL TANK, & ENCLOSURE)
46	2	EMERGENCY VENT, FUEL TANK – EXTENDED OUTSIDE OF ENCLOSURE TO ROOF LINE AT LEAST 12' ABOVE GRADE. SHIPPED LOOSE & INSTALLED BY OTHERS
47	1	UREA LINES – ACS TO INSULATE AND HEAT TRACE (CONNECTING TO EXTERNAL SCR ONSITE TO BE BY OTHERS)
48	4	ROOF MOUNTED SKID LIFTING LUG (DESIGNED TO LIFT SCR & SKID ONLY)
49	2	2" FUEL COUPLINGS ACS TO CONNECT TANK FITTINGS TO FUEL COUPLINGS IN ENCLOSURE WALL (FOR P3 AND P4 PORTS)
50	1	U.L. LISTED 12"x12"x6" J–BOX w/ POWER BLOCKS (MOUNTED BELOW DISCONNECT)

QUOTE NO.: 202507107
PO NO.: 425504PRP1–1
ACS MFG LOC.: TX
JOB NAME: PROLOGIS ATHENA

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REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

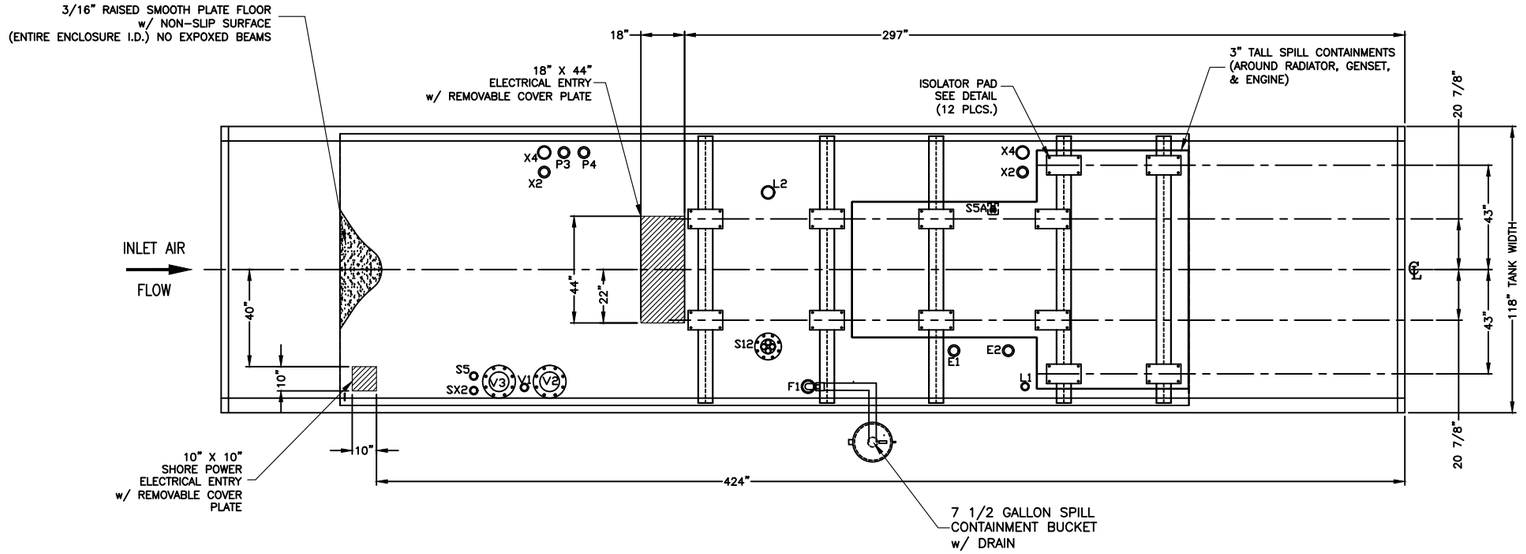
ACS MANUFACTURING, INC.
1601 COMMERCE BLVD. – DENISON, TEXAS – 75020

TOLERANCES (EXCEPT AS NOTED)
DECIMAL ± 0.125"
FRACTIONAL ± 1/8"
ANGULAR ± 3°
SCALE 1 : 1
DATE 09/23/25

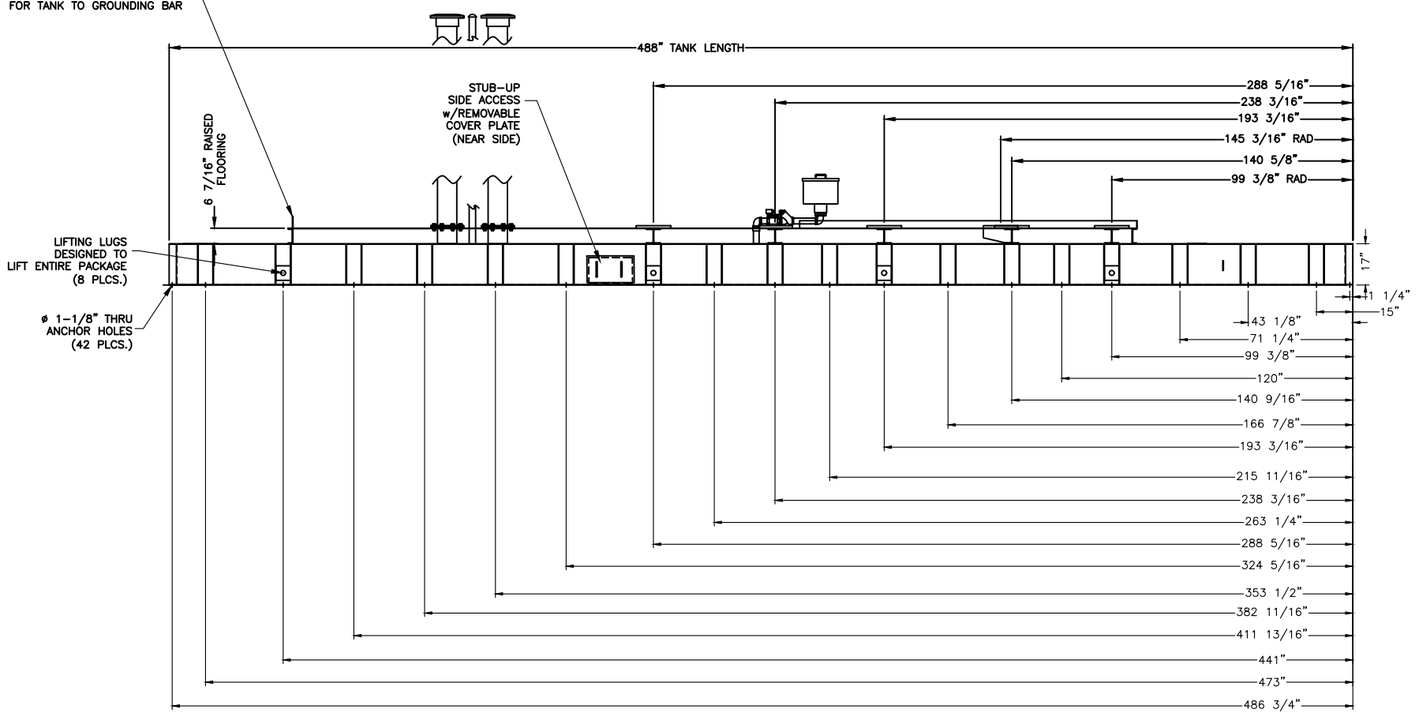
TITLE
CARTER CAT
ACOUSTICAL GEN–SET ENCLOSURE ASSEMBLY

DRAWING NUMBER
13869–10

DRAWN BY: CE
CHECKED BY:
CHECKED BY:
APPROVED BY: JM
SHEET 2 OF 5
REV. —

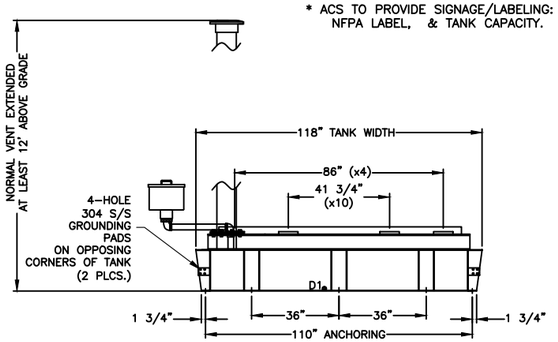


PLAN VIEW

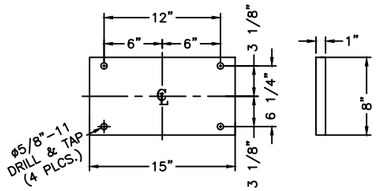


ELEVATION VIEW

U.L. 142 SUB BASE FUEL TANK
2,900 CAPACITY / 2,500 GALLON USABLE
w/ INTERNAL SCH40 BLACK IRON PIPING REACHING OPPOSING CORNERS
(FOR CUSTOMER SUPPLIED FUEL POLISHING SYSTEM)



END VIEW



ISOLATOR PAD DETAIL

12 REQ'D
SCALE: 4X

REF.	FITTING SIZE	DESCRIPTION
D1	1" NPT	TANK DRAIN – SECONDARY
E1	4" NPT	ENGINE FUEL SUPPLY – w/ 1" NPT DIP TUBE
E2	2" NPT	ENGINE FUEL RETURN – w/1" NPT DIP TUBE
F1	2" NPT	FUEL FILL w/ 2" CAMLOCK & OPV @ 95%
L1	2" NPT	LEVEL GAUGE – DIRECT SITE READING
L2	4" NPT	LEVEL SENSOR – ROCHESTER 240-30 OHM (WIRE TO GCP)
P3	2" PIPE	FUEL POLISHER SUPPLY – w/ INTERNAL PIPING (FOR CUSTOMER FPS)
P4	2" PIPE	FUEL POLISHER RETURN – w/ INTERNAL PIPING (FOR CUSTOMER FPS)
S5	2" NPT	LEAK DETECTOR SWITCH – N.O. (WIRE TO FTA THEN TO GCP)
S5A	–	SIDE MOUNTED LEAK DETECTOR SWITCH – N.O. (WIRE TO GCP)
S12	6" FLANGE (WIRE TO FTA THEN TO GCP)	CRITICAL LOW LEVEL SWITCH – N.C. – 20% LOW LEVEL SWITCH – N.C. – 25% HIGH LEVEL SWITCH – N.O. – 90% CRITICAL HIGH LEVEL SWITCH – N.O. – 95%
SX2	2" NPT	SPARE FITTING, SECONDARY – (1)
V1	2" NPT	PRIMARY TANK NORMAL VENT – EXTEND ABOVE ENCLOSURE ROOF LINE (AT LEAST 12' ABOVE GRADE) SHIPPED LOOSE & INSTALLED BY OTHERS
V2	8" NPT	EMERGENCY VENT – PRIMARY – EXTEND ABOVE ENCLOSURE ROOF LINE (AT LEAST 12' ABOVE GRADE) SHIPPED LOOSE & INSTALLED BY OTHERS
V3	8" NPT	EMERGENCY VENT – SECONDARY – EXTEND ABOVE ENCLOSURE ROOF LINE (AT LEAST 12' ABOVE GRADE) SHIPPED LOOSE & INSTALLED BY OTHERS
X2	2" NPT	SPARE FITTING, PRIMARY – w/ CAP (2)
X4	4" NPT	SPARE FITTING, PRIMARY w/ CAP (2)

* EXTEND TANK ALARMS TO REACH GENSET CONTROL PANEL VIA FLEX CONDUIT
* ACS TO PROVIDE SIGNAGE/LABELING: "DIESEL FUEL, FLAMMABLE, NO SMOKING", NFPA LABEL, & TANK CAPACITY.

☐ APPROVED AS IS – Manufacturing may proceed.

☐ APPROVED WITH NOTED CHANGES – Resubmit drawing; manufacturing may proceed.

☐ NOT APPROVED – Correct drawing as noted and resubmit for approval before manufacturing begins.

BY: _____ DATE: _____

COMPANY: _____

RETURNED APPROVAL DRAWINGS WITH SIGNATURE REQUIRED BEFORE ACS WILL BEGIN MANUFACTURING PROCESS

QUOTE NO.: 202507107
PO NO.: 425504PRP1-1
ACS MFG LOC.: TX
JOB NAME: PROLOGIS ATHENA

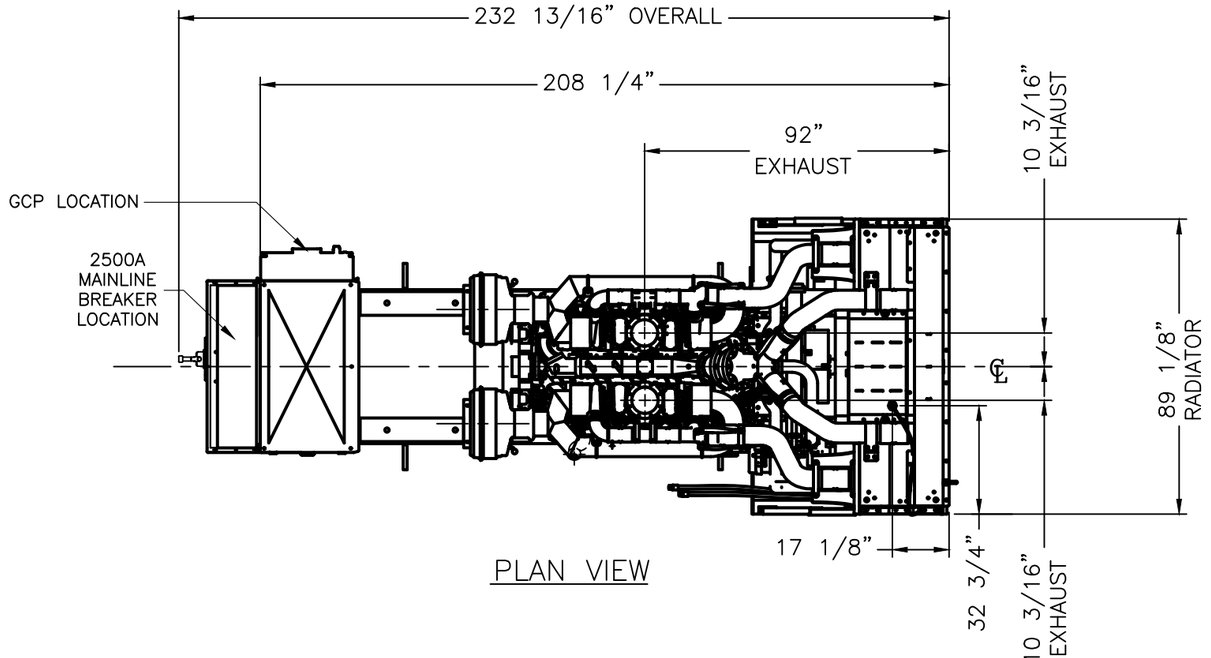
PROPRIETARY NOTICE

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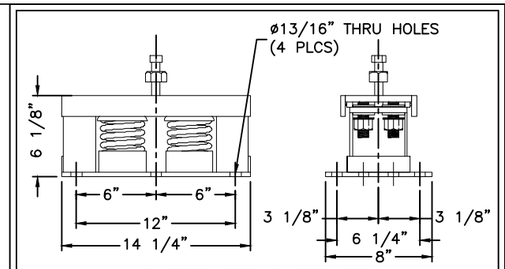
REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

ACS MANUFACTURING, INC.
1601 COMMERCE BLVD. – DENISON, TEXAS – 75020

TOLERANCES (EXCEPT AS NOTED)		DRAWN BY:	CE
DECIMAL ± 0.125"	CARTER CAT	CHECKED BY:	
FRACTIONAL ± 1/8"	TITLE: U.L. 142 SUB BASE FUEL TANK	CHECKED BY:	
ANGULAR ± 3°		APPROVED BY:	JM
SCALE 1 TO 1	DRAWING NUMBER: 13869-10	SHEET: 3 OF 5	REV.: —
DATE 09/23/25			

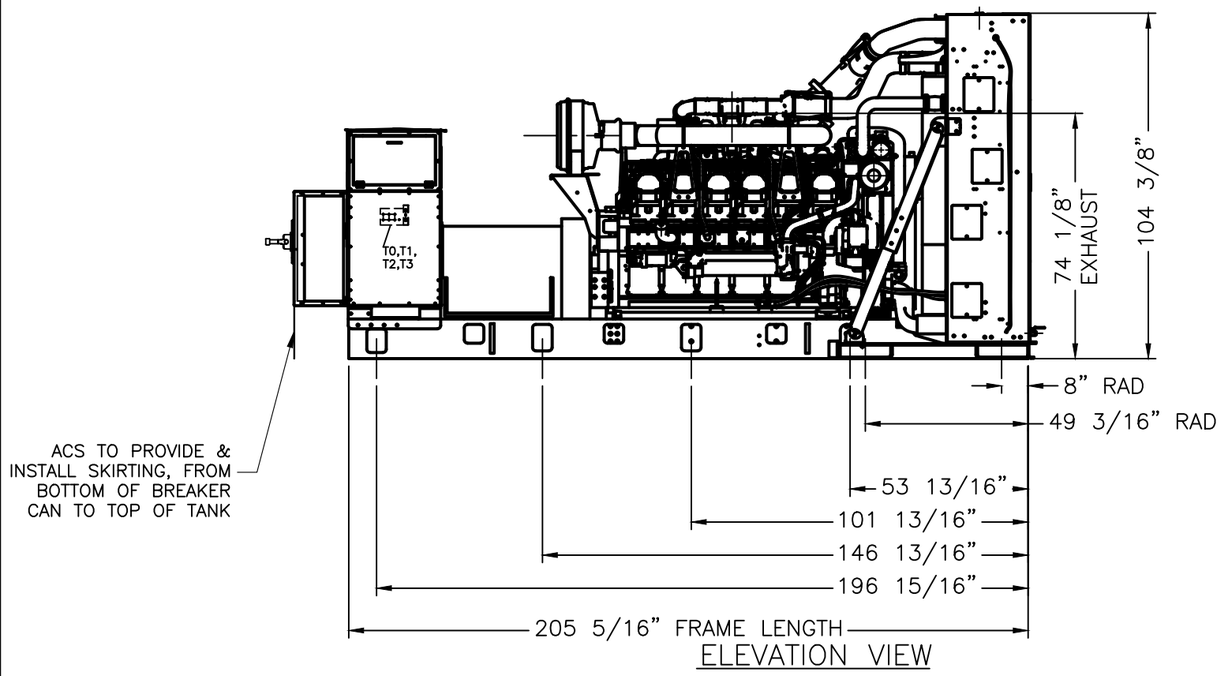


PLAN VIEW

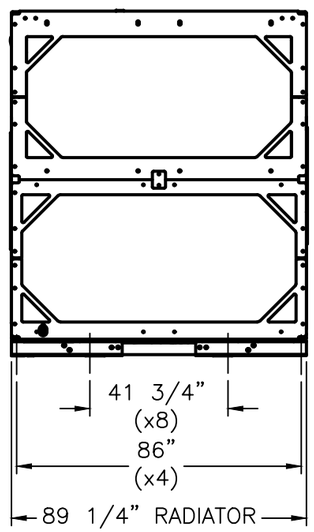


CUSTOMER SUPPLIED
GENSET ISOLATORS DETAIL
SCALE 4X
12 PLCS

CATERPILLAR 1500KW
3512C GENSET



ELEVATION VIEW



END VIEW

☐ APPROVED AS IS – Manufacturing may proceed.

☐ APPROVED WITH NOTED CHANGES – Resubmit drawing; manufacturing may proceed.

☐ NOT APPROVED – Correct drawing as noted and resubmit for approval before manufacturing begins.

BY: _____ DATE: _____

COMPANY: _____

RETURNED APPROVAL DRAWINGS WITH SIGNATURE REQUIRED BEFORE ACS WILL BEGIN MANUFACTURING PROCESS

QUOTE NO.: 202507107
PO NO.: 425504PRP1-1
ACS MFG LOC.: TX
JOB NAME: PROLOGIS ATHENA

PROPRIETARY NOTICE

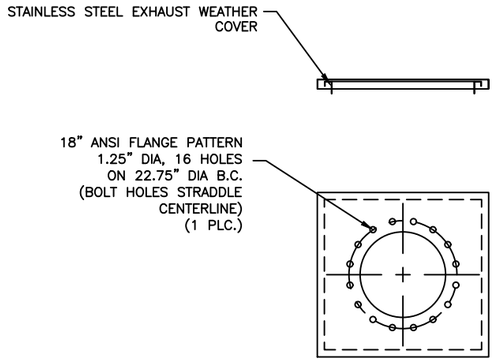
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The gen-set was NOT available for physical review when this drawing was created. Please verify all dimensions prior to fabrication of parts connected to the location of the gen-set. If the dimensions do not match please contact Engineering.

REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

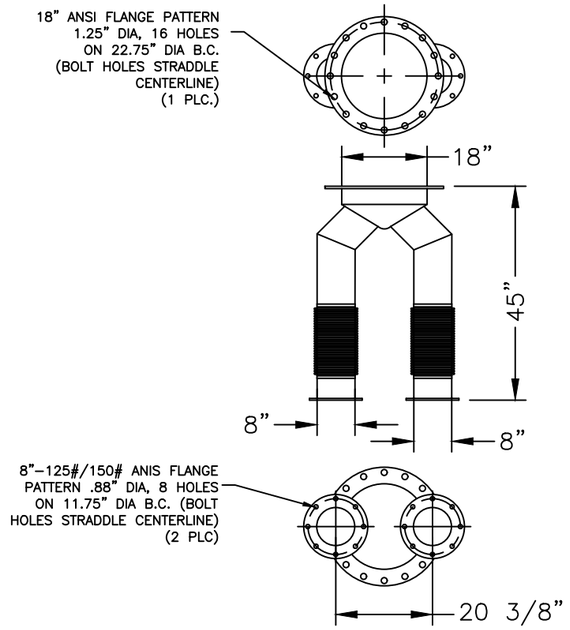
ACS MANUFACTURING, INC.
1601 COMMERCE BLVD. – DENISON, TEXAS – 75020

TOLERANCES (EXCEPT AS NOTED)	CARTER CAT	DRAWN BY: CE
DECIMAL ± 0.125"		CHECKED BY:
FRACTIONAL ± 1/8"	TITLE: GENSET ENCLOSURE ASSEMBLY GENSET DETAILS	CHECKED BY:
ANGULAR ± 3°		APPROVED BY: JM
SCALE 1 TO 1	DRAWING NUMBER: 13869-10	SHEET: 4 OF 5 / REV: —
DATE 09/23/25		



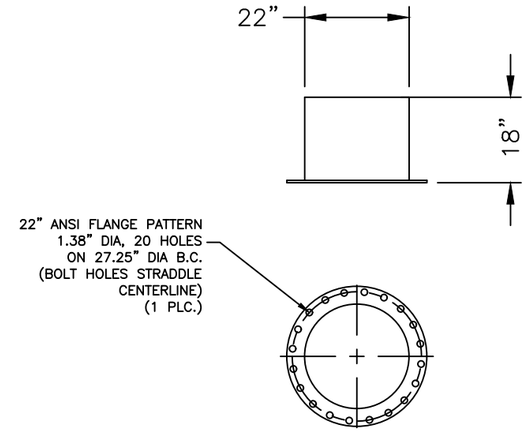
EXHAUST WEATHER CAP DETAIL

1 REQUIRED PER UNIT



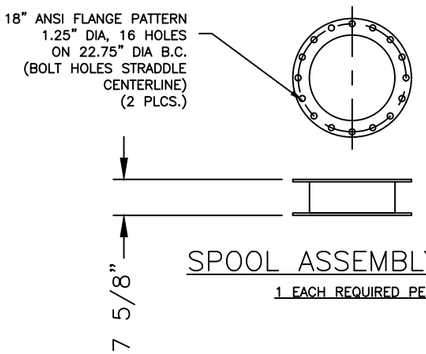
WYE FLEX ASSEMBLY DETAIL

1 EACH REQUIRED PER UNIT



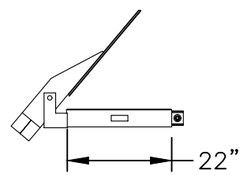
TAIL PIPE DETAIL

1 REQUIRED PER UNIT



SPOOL ASSEMBLY DETAIL

1 EACH REQUIRED PER UNIT



22" RAIN CAP DETAIL

1 EACH REQUIRED PER UNIT

ACS TO PROVIDE PER ENCLOSURE:

1. ONE (1) WYE FLEX ASSEMBLY AS SHOWN.
2. TWO (2) 10" ANSI NBG KITS.
3. TWO (2) 8" ANSI NBG KITS.
4. TWO (2) 18" ANSI NBG KIT.
5. ONE (1) 18" ANSI GASKET KIT.
6. ONE (1) 22" ANSI NBG KIT.
7. ONE (1) TAIL PIPE AS SHOWN.
8. ONE (1) STAINLESS STEEL EXHAUST WEATHER CAP AS SHOWN.
9. ONE (1) 22" RAIN CAP AS SHOWN.
10. ONE (1) EXTERNAL SPOOL ASSEMBLY AS SHOWN.
11. ONE (1) REMOVABLE BLANKETS (FOR WYE FLEX ASSEMBLY, & FLANGES)

- ☐ APPROVED AS IS – Manufacturing may proceed.
- ☐ APPROVED WITH NOTED CHANGES – Resubmit drawing; manufacturing may proceed.
- ☐ NOT APPROVED – Correct drawing as noted and resubmit for approval before manufacturing begins.

BY: _____ DATE: _____

COMPANY: _____

RETURNED APPROVAL DRAWINGS WITH SIGNATURE REQUIRED BEFORE ACS WILL BEGIN MANUFACTURING PROCESS

PROPRIETARY NOTICE

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REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

QUOTE NO.: 202507107
PO NO.: 425504PRP1–1
ACS MFG LOC.: TX
JOB NAME: PROLOGIS ATHENA

ACS MANUFACTURING, INC.
1601 COMMERCE BLVD. – DENISON, TEXAS – 75020

TOLERANCES (EXCEPT AS NOTED)	CARTER CAT	DRAWN BY:	CE
DECIMAL ± 0.125"		CHECKED BY:	
FRACTIONAL ± 1/8"	TITLE: EXHAUST COMPONENTS DETAIL SHEET	CHECKED BY:	
ANGULAR ± 3°		APPROVED BY:	JM
SCALE 1 TO 1	DRAWING NUMBER: 13869–10	SHEET: 5 OF 5	REV.: —
DATE: 09/23/25			

CATALYTIC COMBUSTION
EMISSION TECHNOLOGIES

311 Riggs Street
Bloomer, Wisconsin 54724
Phone: 715-568-2882

CUSTOMER APPROVAL PAGE

Submittal Date:	9/16/2025
Catalytic Combustion Project No.:	WO241269
Submittal Revision No.:	0

Contact and Shipping Information			
Company Name:	Carter CAT		
Contact Name:	Mackenzie Young	*Phone:*	785-917-0048
E-Mail:	Mackenzie_Young@cartermachinery.com		
Shipping Address:	TBD		

Comments / Site Specific Information

Project/Design Specifications (Per CCC Quote 306232 Rev 1):

(2) Sized for Caterpillar 3512C rated at 1500kW to meet tier IV emissions:

SCR Reactor

- 304 Stainless Steel reactor housing, Insulation Blanket, Oxidation, DPF, SCR Catalysts, Rain Cap, Short Exhaust Stack, Urea Injection, and Mixing duct.
- Factory installed pressure, temperature NOx sensor(s), junction panel, and dosing panel.
- Bottom Inlet, Top Outlet
- Reactor Shipping Dimensions
    - Height = 86” | Width = 108” | Length = 204”
    - Weight (approximate) = 10,000 lbs.

ADC Skid

- Air Compressor
- 300 Gallon Poly urea day tank
- Urea flow rate (32.5% concentration) is 6.98 gallons per hour.
- Sensor/Dosing Control Panel

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CATALYTIC COMBUSTION
EMISSION TECHNOLOGIES

311 Riggs Street
Bloomer, Wisconsin 54724
Phone: 715-568-2882

Emissions

- Guaranteed Emissions for EPA Tier IV Compliance:
  - NOx at 0.5 gr/bhp-hr.
  - CO at 2.6 g/bhp-hr
  - THC at 0.14 g/bhp-hr
  - PM at 0.022 g/bhp-hr
- Noise is controlled. Integrated attenuation is 35-45 dBA.
- Warranty = 24 months after startup or 27 months after delivery, whichever is sooner.

Documents Included	
Description	*Drawing / Document No.*
SCR System	727821_00
SCR Assembly	727819_00
ADC Skid Assembly	727819_00
P&ID	727783_00
Control Panel Schematics	727020_00
Junction Panel Schematics	727796_00
Field Interconnect Schematics	727807_00

APPROVED ☐ No exceptions or comments noted.

APPROVED ☐ Requested changes noted in red ink.

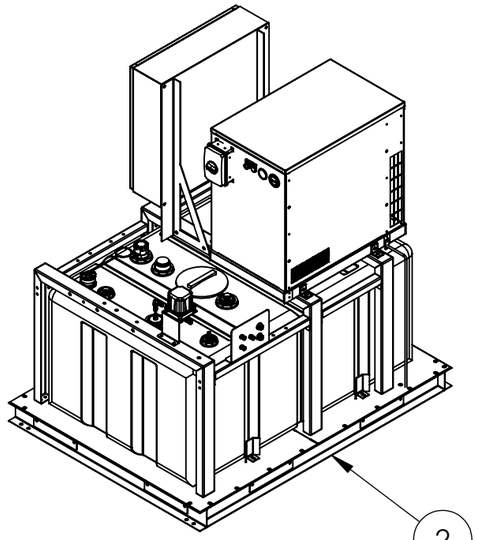
RESUBMIT ☐ Unacceptable as submitted. Make requested changes and resubmit.

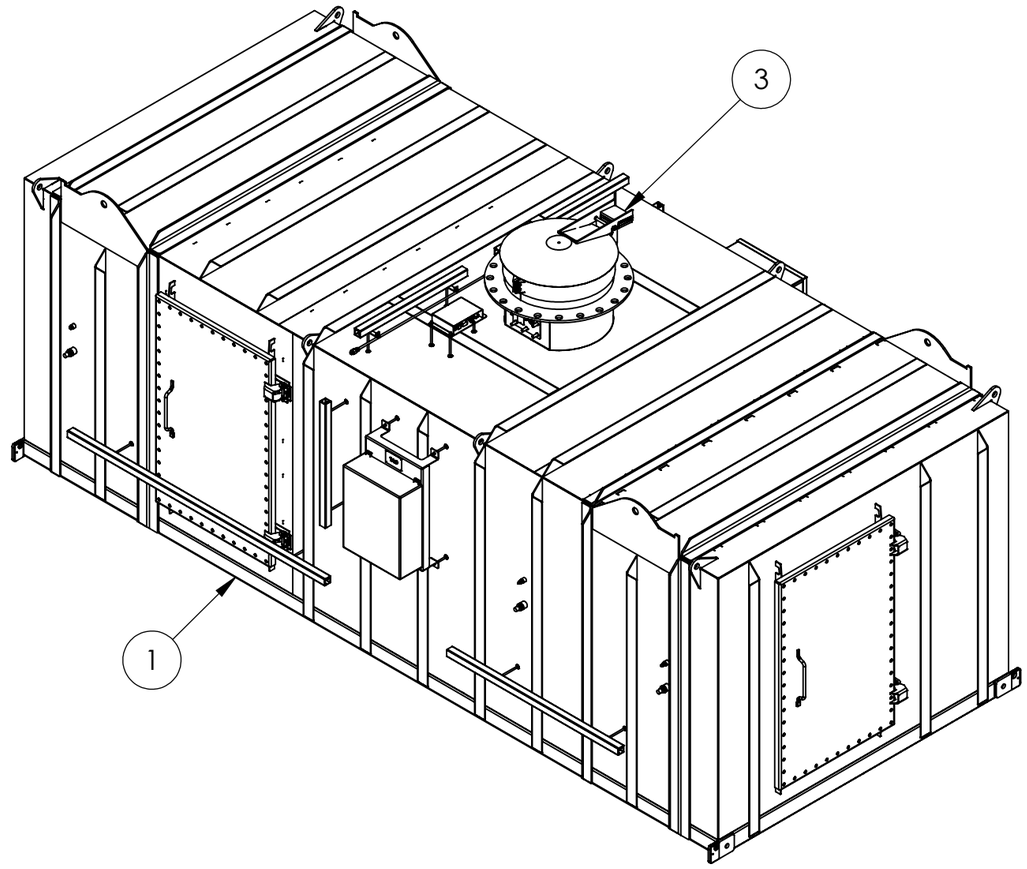
Please review and return to: Cal Fadness cfadness@catalyticcombustion.com

Date *Signature* *Company*

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ITEM NO.	DRAWING NUMBER	REVISION	VISUAL P/N	DESCRIPTION	WEIGHT	QTY.
1	727692	00	1050357	SCR ASSEMBLY 33215-138-X0PFS1-118FB122FT-SB0-01	9422.94	1
2	727819	00	1050360	ADC SKID ASYM S1E0-A1DX-0300PSH0I0-C1-01	843.63	1
3	725071	A	1049351	RAIN CAP RCF-22BS	34.49	1





REV.	ECN	TIER	DESCRIPTION	DATE	APPROVED BY
00	N/A	2	CREATED	09/16/2025	KHABLE

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:

ANGULAR: FABRICATED ±1.0°
MACHINED ±0.5°
ONE PLACE DECIMAL ±0.1
TWO PLACE DECIMAL ±0.06
THREE PLACE DECIMAL ±0.030
DUAL DIMENSIONS IN. (MM)

REMOVE ALL BURRS AND BREAK SHARP EDGES

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	NAME	DATE
DRAWN	KHABLE	09/16/2025

MATERIAL:

THIRD ANGLE PROJECTION

CATALYTIC COMBUSTION
311 RIGGS ST.
BLOOMER, WI 54724
TEL. 715-568-2882
FAX 715-568-2884

DESCRIPTION:
SCR SYSTEM 33215-138-X1PFS1-118FB122FT-SB0-30E0-01

VISUAL PART NO.
1050359

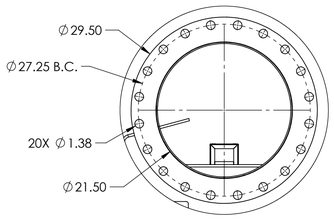
DO NOT SCALE DRAWING

SIZE
B

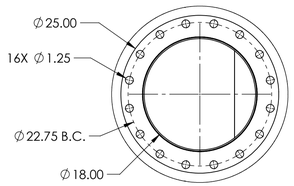
DRAWING NO.
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REV
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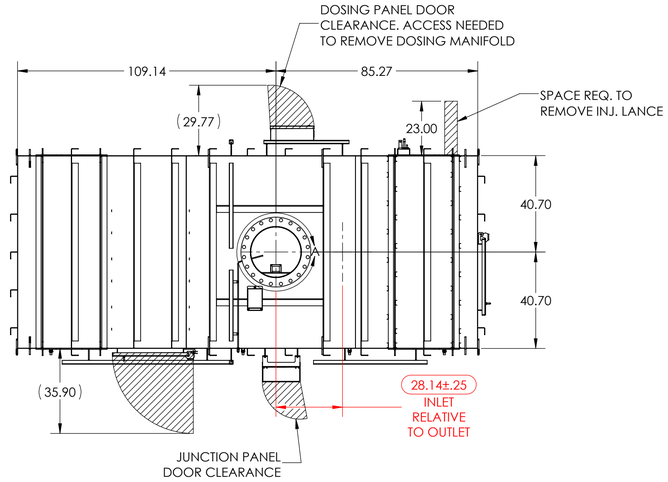
SCALE: 1:96 | WT: 10301.07 | SHEET 1 OF 1

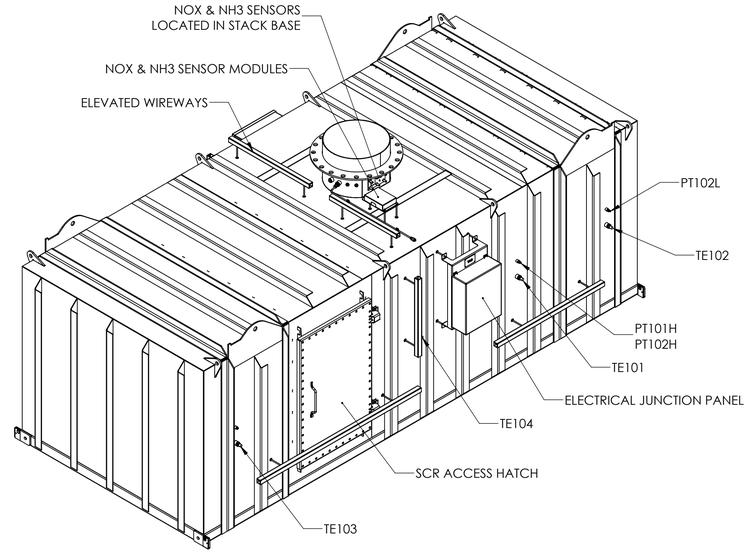


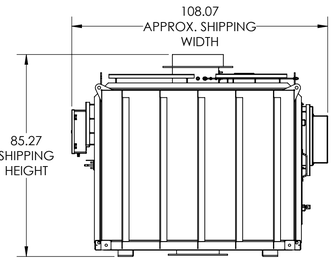
DETAIL A
SCALE 1 : 12

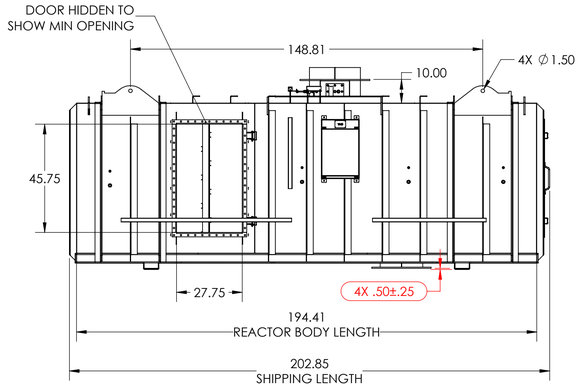


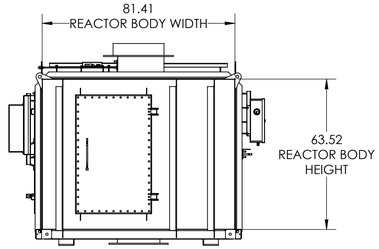
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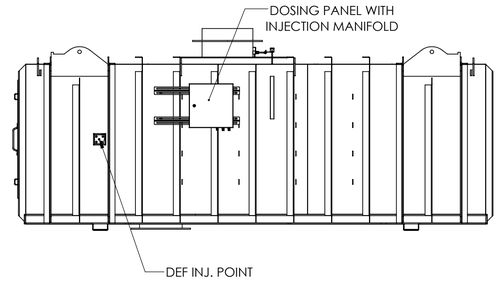


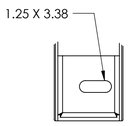




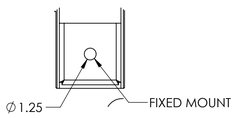




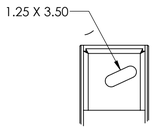




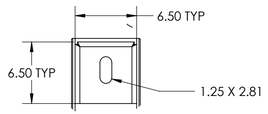
DETAIL F
SCALE 1 : 8



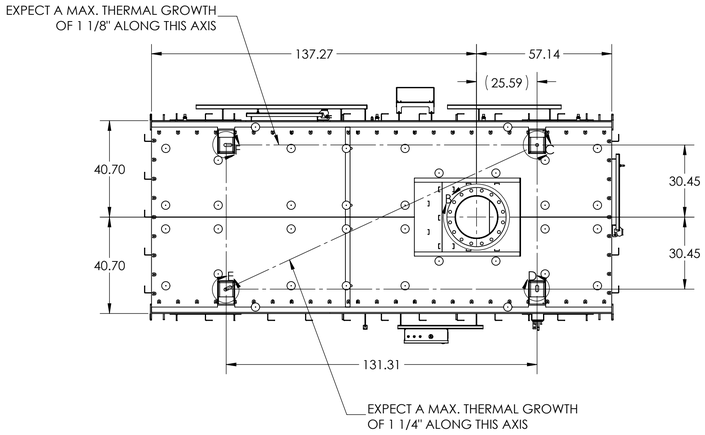
DETAIL C
SCALE 1 : 8

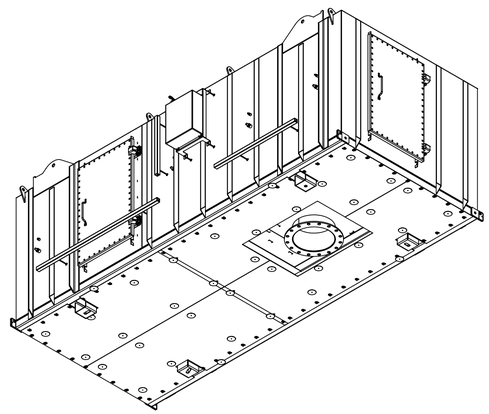


DETAIL E
SCALE 1 : 8



DETAIL D
SCALE 1 : 8





NOTES:

1) APPROXIMATE WEIGHT: 10,000LBS

2) EXTERIOR WILL BE COVERED WITH FABRIC INSULATION BLANKET, INSULATION OUTER COVER WILL BE GRAY WITH SS FASTENERS

3) ALLOW 5" FROM THE OUTSIDE FACES OR REACTOR TO CLOSEST OBSTRUCTION

REV.	ECN	TIER	DESCRIPTION	DATE	APPROVED BY
00	N/A	2	CREATED	09/16/2025	khable

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
ANGULAR: FABRICATED ±1.0°
MACHINED ±0.5°
ONE PLACE DECIMAL ±0.1
TWO PLACE DECIMAL ±0.06
THREE PLACE DECIMAL ±0.030
DUAL DIMENSIONS IN (MM)

REMOVE ALL BURRS AND BREAK SHARP EDGES

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	NAME	DATE
DRAWN	khable	09/11/2025
MATERIAL:		

THIRD ANGLE PROJECTION

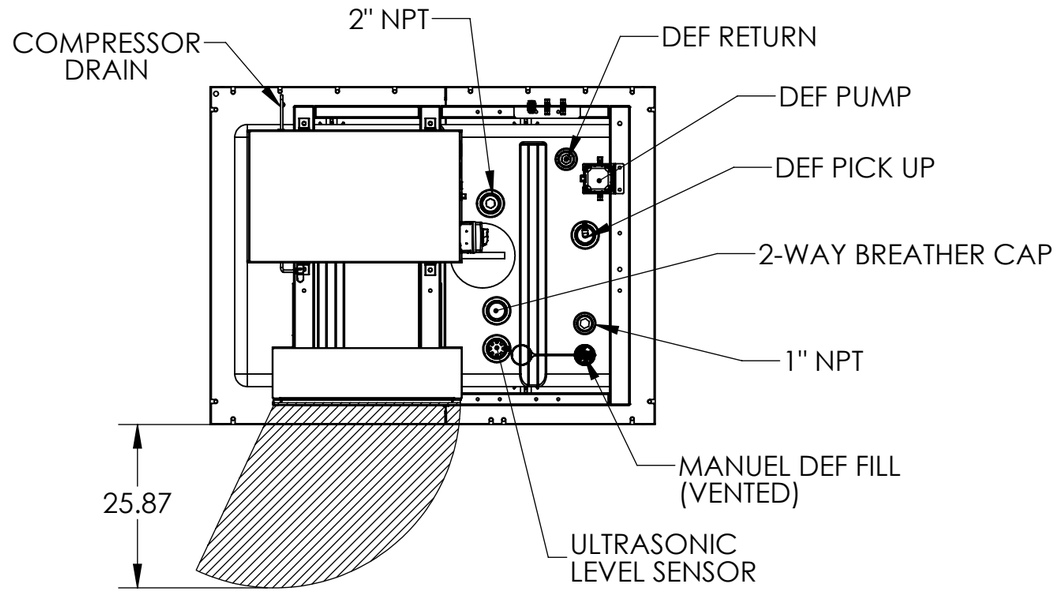
DO NOT SCALE DRAWING

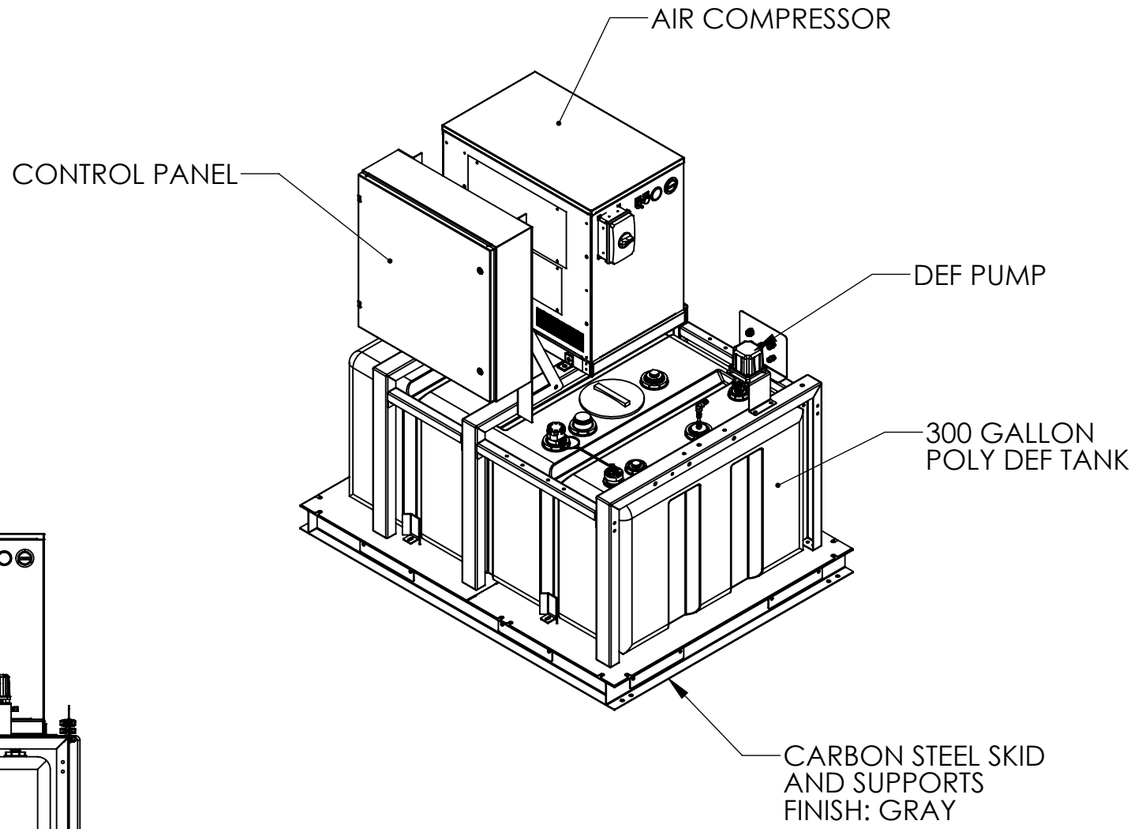
CATALYTIC COMBUSTION
311 RIGGS ST
BLOOMER, WI 54724
TEL 715-568-2882
FAX 715-568-2884

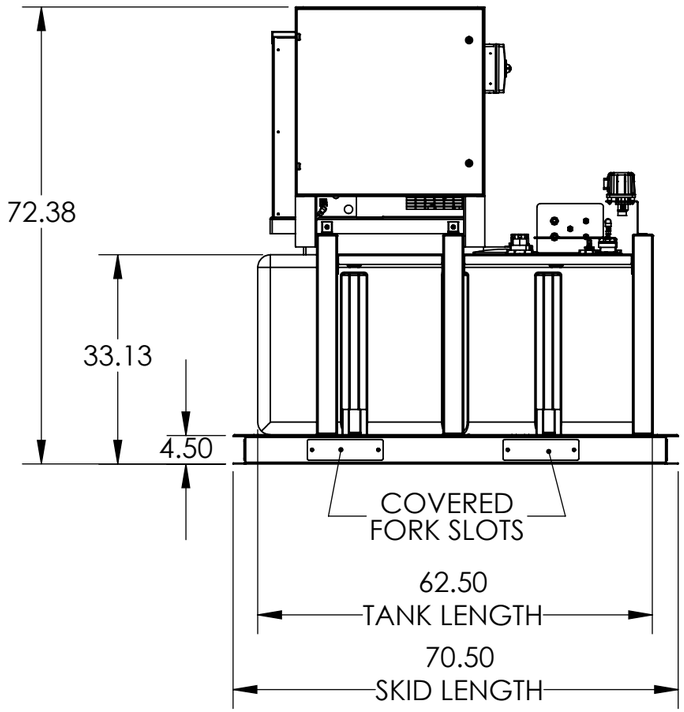
DESCRIPTION:
SCR ASSEMBLY 33215-138-X0PFS1-118FB122FT-SB0-01

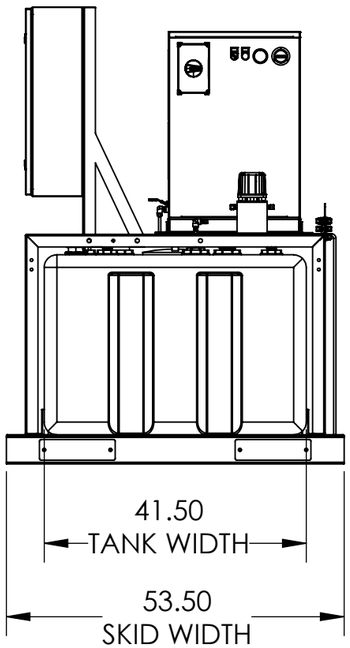
VISUAL PART NO.	SIZE	DRAWING NO.	REV
1050357	D	727692	00

SCALE: 1:32 SHEET 1 OF 3









FLEX LINES NOT SHOWN
SKID IS NOT DESIGNED TO BE LIFTED WHEN TANK HAS FLUID IN IT.
APPROXIMATE WEIGHT WITH EMPTY TANK: 900LBS
APPROXIMATE WEIGHT WITH FULL TANK: 3,600LBS

DEF PUMP LIMITATIONS:
-MOUNTING: MAX 1.0M ABOVE TOP OF DEF TANK
-MIN MOUNTING LOCATION: 0.15M BELOW TOP OF THE DEF TANK
-MAX 2.0M SUCTION LINE LENGTH FROM DEF TANK TO PUMP
-MAX 10.0M PRESSURE LINE LENGTH VERTICAL OR HORIZONTAL BETWEEN PUMP AND DOSING MANIFOLD

REV.	ECN	TIER	DESCRIPTION	DATE	APPROVED BY
00	N/A	2	CREATED	09/16/2025	khable

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
ANGULAR: FABRICATED ±1.0°
MACHINED ±0.5°
ONE PLACE DECIMAL ±0.1
TWO PLACE DECIMAL ±0.06
THREE PLACE DECIMAL ±0.030
DUAL DIMENSIONS IN. (MM)

REMOVE ALL BURRS AND BREAK SHARP EDGES

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	NAME	DATE
CREATED	khable	09/16/2025

MATERIAL:

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

CATALYTIC COMBUSTION
311 RIGGS ST.
BLOOMER, WI 54724
TEL. 715-568-2882
FAX 715-568-2884

DESCRIPTION:
ADC SKID ASYM S1E0-A1DX-0300PSH0I0-C1-01

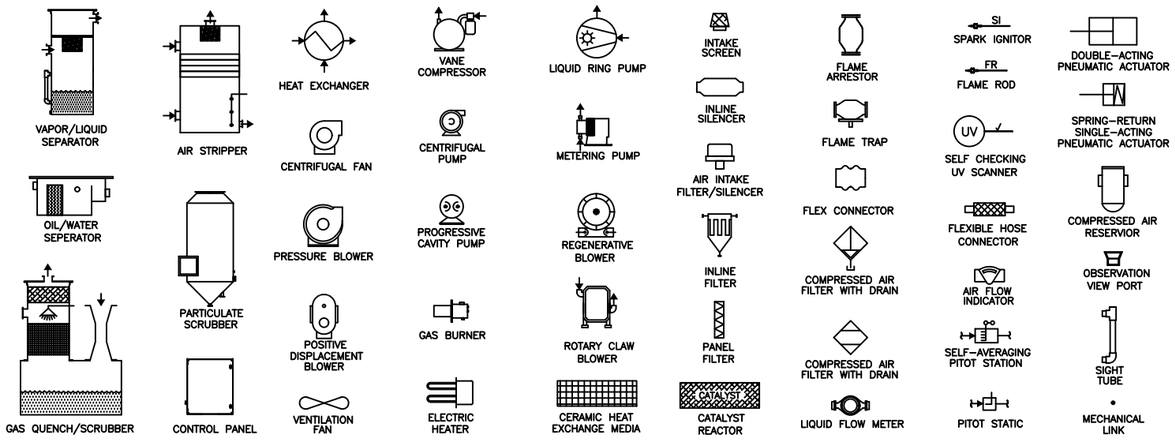
VISUAL PART NO.	SIZE	DRAWING NO.	REV
1050360	B	727819	00

SCALE: 1:24 | WT: 843.63 | SHEET 1 OF 2

VALVES AND PIPING

- GLOBE
- BALL
- BUTTERFLY
- CHECK
- GATE
- ORIFICE METERING
- LUBRICATED PLUG
- VACUUM RELIEF
- PRESSURE RELIEF
- PRESSURE REDUCING INTERNAL RELIEF
- PRESSURE REDUCING EXTERNAL PRESSURE
- PRESSURE REDUCING DIFFERENTIAL PRESSURE
- PRESSURE REDUCING VENTED
- 3 WAY
- REDUCER
- Y–STRAINER
- SAMPLE/TEST PORT
- FLANGE
- UNION
- ORFICE PLATE
- VALVE NORMALLY OPEN
- VALVE NORMALLY CLOSED

EQUIPMENT



TRANSDUCERS

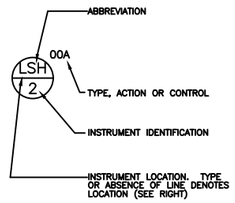
EXAMPLE:

FT V/P — CURRENT TO PNEUMATIC TRANSDUCER (MOUNTED BEHIND–THE–PANEL)

A	ANALOG
D	DIGITAL
E	VOLTAGE
F	FREQUENCY
I	CURRENT
P	PNEUMATIC
PF	PULSE FREQUENCY
PD	PULSE DURATION

INSTRUMENT IDENTIFICATION

BUBBLE SYMBOL



INSTRUMENT LOCATION SYMBOL

- FIELD MOUNTED INSTRUMENT
- PANEL MOUNTED INSTRUMENT
- BEHIND–THE–PANEL MOUNTED INSTRUMENT
- PILOT LIGHT/ALARM LIGHT (LIGHT COLOR)
- PROGRAMMABLE LOGIC CONTROLS

SPECIAL CASES

- HS 4 OO — ON AND OFF EVENT LIGHTS
- HS 4 OC — OPENED AND CLOSED POSITION LIGHTS
- HS 4 OC — OPENED AND CLOSED POSITION SWITCHES
- I — INTERLOCKS

TYPE, ACTION, OR CONTROL ABBREVIATIONS

AAH	ANALYTICAL ALARM HIGH
AAL	ANALYTICAL ALARM LOW
AC	ALTERNATING CURRENT
AE	ANALYTICAL ELEMENT
AI	ANALOG INPUT
AM	AUTO MANUAL
AO	ANALOG OUTPUT
AT	ANALYTICAL TRANSMITTER
B	BURNER
CV	CONTROL VALVE
DC	DIRECT CURRENT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DPI	DIFFERENTIAL PRESSURE INDICATOR
DPS	DIFFERENTIAL PRESSURE SWITCH
EH	ELECTRIC HEATER
ENET	ETHERNET
F	FAN
FAR	FORWARD AUTO REVERSE
FE	FLOW ELEMENT/SENSOR
FI	FLOW INDICATOR
FIR	FLOW INDICATING RECORDER
FIT	FLOW INDICATING TRANSMITTER
FS	FLOW SWITCH
HOA	HAND OFF AUTO
HS	HAND SWITCH
HV	HAND VALVE
LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
LEL	LOWER EXPLOSIVE LIMIT
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
LSLL	LEVEL SWITCH LOW LOW
LT	LEVEL TRANSMITTER
M	MOTOR
MV	MOTORIZED VALVE
N	NOZZLE
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
OC	OPEN–CLOSE
OCA	OPEN–CLOSE–AUTO
OO	ON–OFF
OOA	ON–OFF–AUTO
OOR	ON–OFF–REMOTE
P	PUMP
PAH	PRESSURE ALARM HIGH
PAL	PRESSURE ALARM LOW
PC	PRESSURE CONTROL
PCV	PRESSURE CONTROL VALVE
PI	PRESSURE INDICATOR
PIR	PRESSURE INDICATING RECORDER
PIS	PRESSURE INDICATING SWITCH
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PRV	PRESSURE RELIEF VALVE
PRX	PRESSURE RELIEF RUPTURE DISK
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PT	PRESSURE TRANSMITTER
SR	SPRING RETURN
SS	START–STOP
SSOV	SAFETY SHUT OFF VALVE
SV	SOLENOID VALVE
TAH	TEMPERATURE ALARM HIGH
TAL	TEMPERATURE ALARM LOW
TCV	TEMPERATURE CONTROL VALVE
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR
TIC	TEMPERATURE INDICATING CONTROLLER
TIR	TEMPERATURE INDICATING RECORDER
TIT	TEMPERATURE INDICATING TRANSMITTER
TS	TEMPERATURE SWITCH
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
TT	TEMPERATURE TRANSMITTER
VFD	VARIABLE FREQUENCY DRIVE
VRV	VACUUM RELIEF VALVE
XCV	CHECK VALVE
XDA	DETONATION ARRESTOR
XFA	FLAME ARRESTOR
XFT	FLAME TRAP
XHE	HEAT EXCHANGER
XIF	INLET FILTER
XIS	INLET SCREEN
XJ	FLEX CONNECTOR/EXPANSION JOINT
XS	SILENCER
XSI	SPARK IGNITER
XUV	UV DETECTOR
XV	UNCLASSIFIED VALVE
YC	EVENT CLOSED
YI	EVENT INDICATOR
YO	EVENT OPEN
ZAC	POSITION ALARM CLOSED
ZAO	POSITION ALARM OPEN
ZS	POSITION SWITCH
ZSC	POSITION SWITCH CLOSED
ZSO	POSITION SWITCH OPEN
ZT	POSITION TRANSMITTER

OPERATORS

- M 01 — MOTOR
- MV 01 — MOTORIZED VALVE
- PA 01 — PNEUMATIC ACTUATOR
- PV 01 — PNEUMATIC VALVE
- VFD 01 — VARIABLE FREQUENCY DRIVE
- SV 01 — SOLENOID VALVE
- MANUAL
- MV 01 — MANUAL VALVE

LINE LEGEND

- PIPING
- PROCESS DUCTWORK
- COMPRESSED AIR
- PNEUMATIC SIGNAL
- ELECTRICAL SIGNAL OTHER
- ANALOG SIGNAL
- NON CONNECTING LINES
- CONNECTING LINES
- DATA LINK
- HOSE
- LINE SIZE 6 — FLOW DIRECTION
- OTHERS — CCC

PROCESS FLOW DIAGRAM LEGEND

- °F — TEMPERATURE DEGREES FAHRENHEIT
- SCFM — VAPOR FLOW STANDARD CUBIC FEET PER MINUTE
- PSIG — PRESSURE POUNDS PER SQUARE INCH GAGE
- PPM — CONCENTRATION PARTS PER MILLION
- GPM — WATER FLOW GALLONS PER MINUTE
- PROCESS NO.

NOTES

1. SPECIFICATIONS AND DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
2. REFERENCE ANSI/ISA–S5.1 FOR SYMBOLS NOT SHOWN ON THIS LEGEND.
3. THIS IS A STANDARD LEGEND, THEREFORE, NOT ALL OF THIS INFORMATION MAY APPLY.
4. THESE SYMBOLS AND ABBREVIATIONS ARE SPECIFIC TO CATALYTIC COMBUSTION CORPORATION AND MAY DIFFER FROM ISA.

REV	DESCRIPTION	DATE	BY
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DRAWING STATUS:		DATE:	BY:
X	PRELIMINARY	9/15/2025	BL
	FOR APPROVAL		
	APPROVED FOR FAB		
	AS BUILT		
	AS FIELD MODIFIED		

MATERIAL: SEE BOM

WEIGHT: N/A

TOLERANCES:
.X = 0.06
.XX = 0.03
.XXX = 0.015
∠ = 0.5°

THIRD ANGLE PROJECTION

INCH [mm]

CATALYTIC COMBUSTION
EMISSION TECHNOLOGIES

Catalytic Combustion Corporation
311 Riggs Street
Bloomer, WI 54724

Telephone: 715–568–2882
Fax: 715–568–2884

www.catalyticcombustion.com

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DATE: 09/15/2025

SCALE: NTS

DRAWN BY: BL

CHECKED BY:

CUSTOMER: CARTER CAT PROLOGIS

TITLE: PROCESS & INSTRUMENTATION DIAGRAM

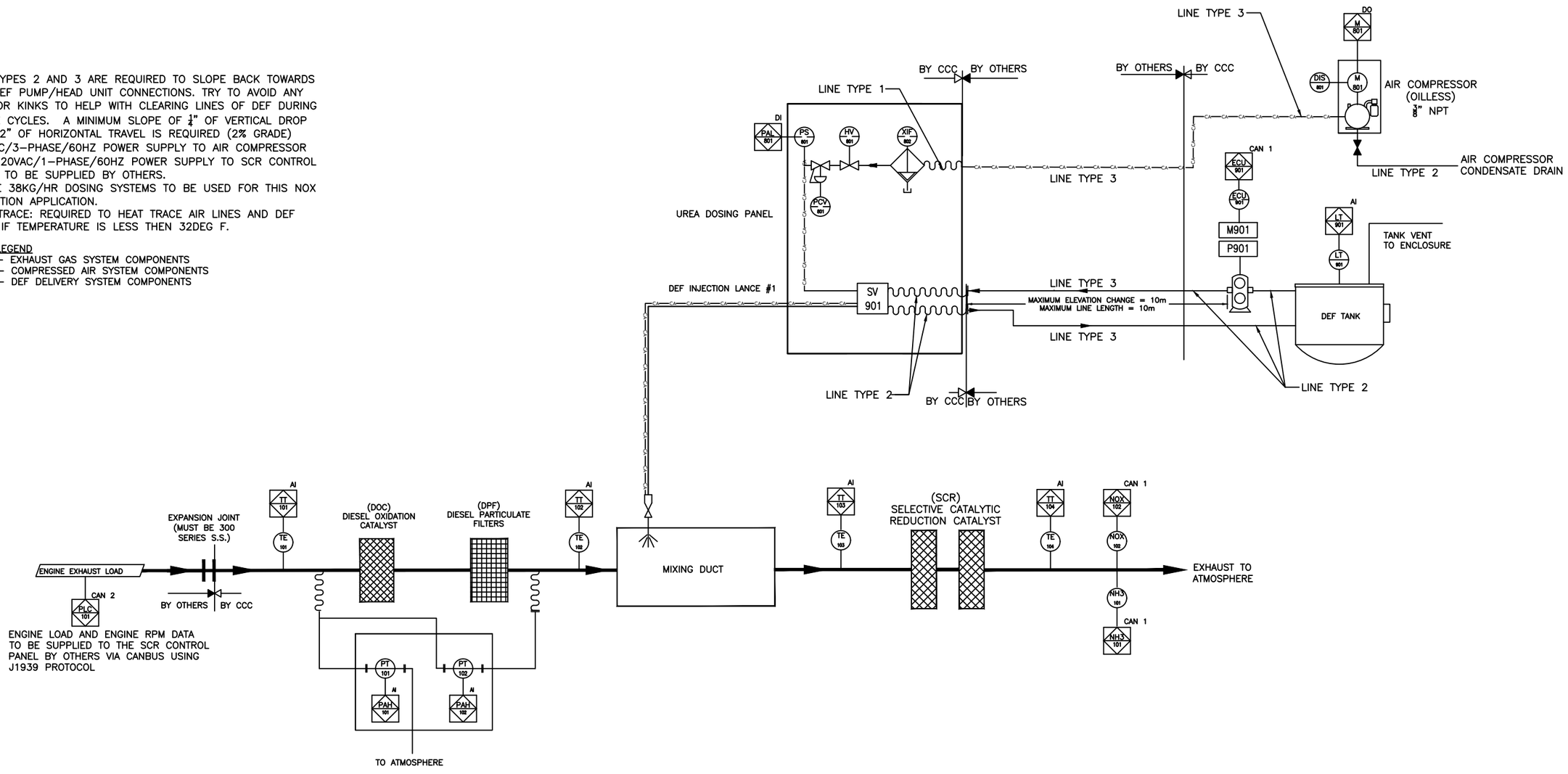
PROJECT/PRODUCT:	DRAWING:	REV:	SIZE:
WO241269	500	0	B

LEGEND OF PIPING, HOSE, & TUBING SYSTEMS		
LINE TYPE	MATERIAL	CONNECTION TYPE
1	¼" OD NYLON BLACK TUBE, UV STABLE, SEMI-FLEXIBLE	N/A
2	3/8" PTFE TUBING .063 WALL THK	3/8" COMPRESSION
3	3/8" OD SS TUBE 0.035" MIN. WALL THICKNESS	3/8" COMPRESSION

NOTES:

1. LINE TYPES 2 AND 3 ARE REQUIRED TO SLOPE BACK TOWARDS THE DEF PUMP/HEAD UNIT CONNECTIONS. TRY TO AVOID ANY DIPS OR KINKS TO HELP WITH CLEARING LINES OF DEF DURING PURGE CYCLES. A MINIMUM SLOPE OF ¼" OF VERTICAL DROP PER 12" OF HORIZONTAL TRAVEL IS REQUIRED (2% GRADE)
2. 208VAC/3-PHASE/60HZ POWER SUPPLY TO AIR COMPRESSOR AND 120VAC/1-PHASE/60HZ POWER SUPPLY TO SCR CONTROL PANEL TO BE SUPPLIED BY OTHERS.
3. SINGLE 38KG/HR DOSING SYSTEMS TO BE USED FOR THIS NOX REDUCTION APPLICATION.
4. HEAT TRACE: REQUIRED TO HEAT TRACE AIR LINES AND DEF LINES IF TEMPERATURE IS LESS THEN 32DEG F.

TAG SERIES LEGEND
100 SERIES – EXHAUST GAS SYSTEM COMPONENTS
800 SERIES – COMPRESSED AIR SYSTEM COMPONENTS
900 SERIES – DEF DELIVERY SYSTEM COMPONENTS



REV	DESCRIPTION	DATE	BY
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	DRAWING STATUS:	DATE:	BY:
X	PRELIMINARY	9/15/2025	BL
.	FOR APPROVAL		
.	APPROVED FOR FAB		
.	AS BUILT		
.	AS FIELD MODIFIED		

MATERIAL: SEE BOM

WEIGHT: N/A

TOLERANCES:
.X = 0.06
.XX = 0.03
.XXX = 0.015
∠ = 0.5°

THIRD ANGLE PROJECTION

INCH [mm]

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DATE: 09/15/2025

SCALE: NTS

DRAWN BY: BL

CHECKED BY:

CUSTOMER: CARTER CAT PROLOGIS

TITLE: PROCESS & INSTRUMENTATION DIAGRAM

PROJECT/PRODUCT:	DRAWING:	REV:	SIZE:
WO241269	501	0	B

TECHNICAL SELECTION

TMA 4D2100B C32 13 1W

GEOCLIMA
Smart HVAC Solutions

TECHNICAL DATA

TMA 4D2100B C32 13 1W

COOLING

PERFORMANCE DATA		
Cooling capacity (A2)	TR	680.0
Spare Capacity	-	0.6%
Minimum Cooling Capacity(A4)	TR	61.56
Total input power (A2)	kW	591.3
Compressor input power	kW	502.6
Input current (E0)	A	805
EER	Btu/Wh	13.80
SOURCE		
Altitude	ft	100
Dry bulb outdoor air	°F	115.0
Outdoor air Relative humidity	%	25.6
Air flow rate	cfm	525818.3
Fan input power	kW	88.70
Fan input current	A	115
Fans available static pressure	inH2O	0.00161

USER		
Fluid type		Water
Fouling fact.	ft²F/Btu/	0.000100
In/out fluid temperature	°F	86.00/69.99
Fluid flow rate	gpm	1024
Circuit pressure drops	ftH2O	25.8

DESIGN AND SIZING DATA

GENERAL DATA		
Number of circuits		2
Minimum capacity step	%	-
Refrigerant type		R513A
GWP		629.5
Total refrigerant charge (R1)	lb	1340.4
CO2 equivalent charge	lb	843762.4

DIMENSIONS		
Length	in	684.6
Width	in	82.7
Height	in	110.2
Shipping weight	lb	29766.8
Net weight	lb	30401.7

COMPRESSORS		
Type		TT450-G-1-ST-LL
Compressor type		Turbocor
Capacity steps		Inverter
Number of compressors	n°	4
Nominal power input (max)(A3)	kW	133.7
Running current (max)(A3)	A	176
Max current	A	180
Starting current (each)	A	5.00

FANS		
Fan type		Axial
Fan motor		EC
Number of fans		32
Maximum input power (P1)	kW	104.0
Maximum input current (E0)	A	139

HYDRONIC CONNECTIONS (IN/OUT)		
Main		8"/8"

ELECTRICAL DATA		
Nominal voltage supply	Ph/V/Hz	3/460/60
Maximum voltage supply	V	480
Minimum voltage supply	V	440
Maximum input power (P1)	kW	631.1
MCA	A	904
MOP	A	1000

SOUND DATA		
Calculated sound power	dB(A)	104.1
Sound pressure(C0) [32.8 ft]	dB(A)	70.4

SOUND DATA-OCTAVE BAND	Hz	63	125	250	500	1000	2000	4000	8000
Unit global sound power	dB(A)	70.9	88.0	90.0	96.6	100.5	97.4	93.3	86.7

(A0) Technical data shown are not binding. The Company shall have the right to introduce at any time whatever modifications necessary to the improvement of the product.

(A1) Dimensional data shown are not binding.

(A2) According to standard: ANSI-AHRI 550-590 (I-P)

(A3) Relative to the most loaded installed compressor at the selected operating conditions.

(A4) Minimum Cooling Capacity at design conditions.

(C0) Noise pressure is calculated according to the following sound propagation method: Hemispherical ISO EN 3744 source

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 363

A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 1 2 3A 3B 3C 3D 3E 4A 4B 4C 5A 5B 5C 5D 5E 6A 6B 6C 6D 6E 7 8 9A 9B 9C

RNA-020-C-A-3-GJB0C-A02NA:00-0FF0G-KAK-00000-AGLBE-DC-CB0
K-00-E0-B-BM0-MB-SA0A-00-000-BA0B00-C00F0D-000000E

9D 10A 10B 11A 11B 12 13A 13B 13C 14 15 16A 16B 16C 16D 17A 17B 18A 18B 18C 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

Tag: RTU_2_DOAS_Design_Airflow

Job Information

Job Name:	
Job Number:	*2601-0219*
Site Altitude:	*0*
Refrigerant:	*R-454B*
Design System Charge (oz):	*792 / 933*

Static Pressure

External:	*1.25 in. w.g.*
Cooling Coil:	*0.11 in. w.g.*
Filters Clean:	*0.14 in. w.g.*
Dirt Allowance:	*0.35 in. w.g.*
Reheat Coil:	*0.01 in. w.g.*

Cooling Section

	Gross	Net
Equivalent Total Capacity:	*336.2 MBH*	*330.6 MBH*
Total Capacity:	*223.7 MBH*	*218.1 MBH*
Sensible Capacity:	*150.9 MBH*	*145.3 MBH*
Latent Capacity:	*72.8 MBH*	
HW Total Cooling Capacity:	*112.5 MBH*	
Mixed Air Temp (DB/WB):	*97.7 °F / 73.8 °F*	
Entering Air Temp (DB/WB):	*97.7 °F / 73.8 °F*	
Lv Air Temp (Coil) (DB/WB):	*47.5 °F / 47.4 °F*	
Lv Air Temp (Unit) (DB/WB):	*49.2 °F / 48.2 °F*	

Supply Air Fan:	*1 x 245D60 @ 1.94 BHP Ea.*
SA Fan RPM / Width:	*1240 RPM / 3.290 in*
SA Fan FEI:	*1.28*
Exhaust Air Fan:	*1 x RM220AB70-RN @ 0.62 BHP Ea.*
EA Fan RPM / Width:	*998 RPM / 3.450 in*
EA Fan FEI:	*1.53*
Evaporator Coil:	*19.6 ft² / 6 Rows / 12 FPI*
Evaporator Face Velocity:	*148.0 fpm*
Energy Recovery:	*1 x ERC-5262C*

Unit Information

Approx. Op./Ship Weights:	*3991 lbs / 3991 lbs (±5%)*
Ambient Temperature (DB/WB):	*104.5 °F / 82.8 °F*
Coil Filter FV / Qty:	*139.2 fpm / 6*
Min. Room Area/Height/Airflow**:	*875 ft² / 7 ft / 1578 SCFM*
Exhaust Airflow/ESP/TSP:	*2500 SCFM / 0.50 in. w.g. / 0.99 in. w.g.*
Outside Air Prefilter FV / Qty:	*267.4 fpm / 4*
Supply Airflow/ESP:	*2900 SCFM / 1.25 in. w.g.*
Outside Airflow:	*2900 SCFM*
Return Airflow/ESP:	*2500 SCFM / 0.50 in. w.g.*
Return Temperature (DB/WB):	*95.0 °F / 68.9 °F*
Economizer:	*0.13 in. w.g.*
Heater:	*0.02 in. w.g.*
Cabinet:	*0.02 in. w.g.*
Energy Recovery:	*0.52 in. w.g.*
Total:	*2.59 in. w.g.*

Heating Section

Preheat Type:	*Std (No Preheat)*
Primary Heat Type:	*Heat pump is not operational at the current conditions.*
OA Temp (DB/WB):	*0.0 °F / -0.1 °F*
RA Temp (DB/WB):	*95.0 °F / 68.9 °F*
Input (Emergency/Aux):	*40.0 kW / 20.0 kW*
Auxiliary Heating Type:	*Electric Heat*
Heating Airflow:	*2900 SCFM*
Emergency Capacity:	*40.0 kW*
Auxiliary Capacity:	*20.0 kW*
Emergency Entering Air Temp (DB/WB):	*64.9 °F / 53.7 °F*
Emergency Leaving Air Temp (DB/WB):	*108.0 °F / 69.0 °F*
Auxiliary Entering Air Temp (DB/WB):	*64.9 °F / 53.7 °F*
Auxiliary Leaving Air Temp (DB/WB):	*86.5 °F / 61.9 °F*
Electric Heat FLA:	*48.1*

Re-heat Coil:

Capacity:	*82.3 MBH*
Leaving Air Temp (DB/WB):	*75.0 °F / 58.9 °F*
Relative Humidity:	*37.5%*

Rating Information

Listing Model	*RN-020-3-0-GJBD-AA-A1-000-A*	*ISCOP2:*	*3.6 W/W*

Rated Supply Airflow:	*5000.0 SCFM*
COP DOAS Condition E:	*3.4 W/W*
COP DOAS Condition F:	*5.4 W/W*
EATR:	*1.48*
ISMRE2:	*6.3 lbm/kW·h*
ISMRE2-70:	*6.3 lbm/kW·h*
MRC:	*168.0 lbm/h*
MRE:	*7.0 lbm/kW·h*

Rated in accordance with AHRI Standard 920 (I-P)

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*82*
Unit FLA:	*72*	*Maximum Overcurrent:*	*90*
SCCR:	*65 KAIC*		

	Qty	*HP*	*VAC*	*Phase*	*RPM*	*FLA*	*RLA*
Compressor 1:	*1*		*460*	*3*	*3500*		*16.0*
Compressor 2:	*1*		*460*	*3*	*3500*		*14.0*
Condenser Fan:	*3*	*1.00*	*460*	*1*	*1100*	*3.6*	
Supply Fan:	*1*	*3.00*	*460*	*3*	*1170*	*4.8*	
Exhaust Fan:	*1*	*1.00*	*460*	*3*	*1760*	*2.1*	
Energy Recovery:	*1*	*0.17*	*460*	*1*	*1075*	*0.6*	

Cabinet Sound Power Levels*

Octave Bands:	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Discharge LW (dB):	*87*	*86*	*90*	*93*	*90*	*87*	*82*	*75*
Return LW (dB):	*81*	*83*	*77*	*70*	*70*	*67*	*61*	*54*

**Sound data is generated by a propriety acoustics model validated through unit testing in accordance with AHRI 260, utilizing tested fan sound data in accordance with AMCA 300.*

*****The minimum floor area is based on the Lower Flammability Limit (LFL) and calculated in accordance with UL60335-2-40 4th ed. (operating or storage). For UL60335-2-40 3rd ed. double the airflow and minimum floor area listed.***
The minimum airflow (Qmin) is the minimum allowable airflow for any operating condition.

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Ecat Price Version: 363

Performance Data Table

Outside Air		Mixed Air		Leaving Air		Heat Pump Capacity	Heat Pump Integrated Capacity	Heat Wheel Heating Capacity	Heating COP
DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	MBH	MBH	MBH	W/W
62.0	56.2	85.6	65.6	*	*	*	*	*	*
57.0	51.6	84.2	64.4	*	*	*	*	*	*
52.0	47.1	82.8	63.4	*	*	*	*	*	*
47.0	42.6	81.3	62.5	*	*	*	*	*	*
42.0	38.0	79.9	61.5	*	*	*	*	*	*
37.0	33.5	78.5	60.7	*	*	*	*	*	*
32.0	28.8	77.1	59.8	*	*	*	*	*	*
27.0	24.3	75.7	59.0	*	*	*	*	*	*
22.0	19.7	74.2	58.3	*	*	*	*	*	*
17.0	15.0	72.8	57.5	*	*	*	*	*	*
12.0	10.4	69.1	55.6	*	*	*	*	*	*
7.0	5.7	67.4	54.8	*	*	*	*	*	*
5.0	2.0	66.7	54.1	*	*	*	*	*	*
2.0	0.1	65.6	53.8	*	*	*	*	*	*
0.0	0.0	64.9	53.7	*	*	*	*	*	*

*Invalid operating point - Compressor operating outside of operating envelope
**Electric preheat is used to maintain the entering air temperature when applicable.

Unit Rating

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Ecat Price Version: 363

A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 1 2 3A 3B 3C 3D 3E 4A 4B 4C 5A 5B 5C 5D 5E 6A 6B 6C 6D 6E 7 8 9A 9B 9C

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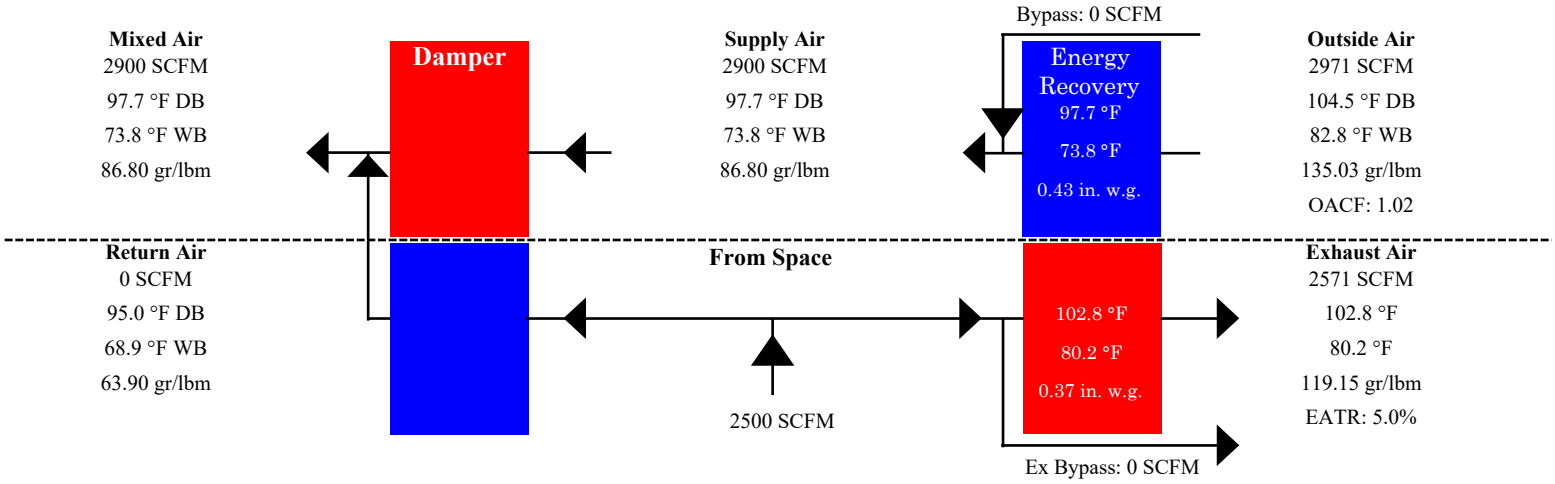
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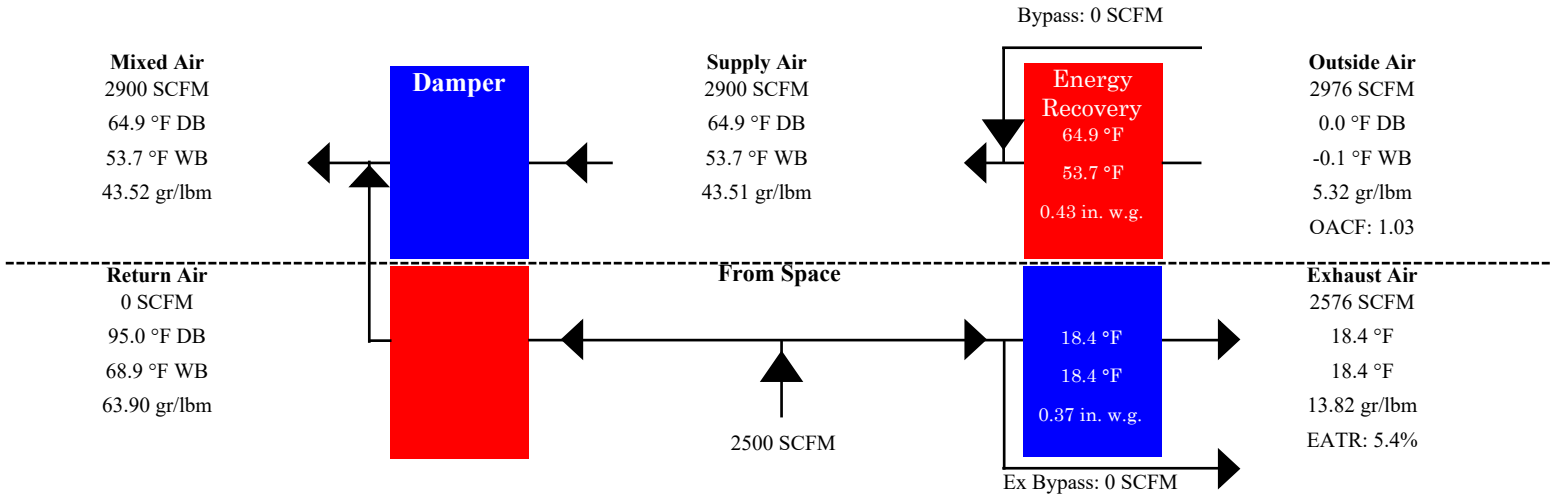
Job Name:	**Point One - Richmmond, VA**	Energy Recovery Type:	**Total**
Job Number:	**2601-0219**	Energy Recovery Model:	**ERC-5262C**
Site Altitude:	**0**	Energy Recovery Qty:	**1**
Net Supply Airflow Sum/Win:	**2754 SCFM / 2744 SCFM**	Energy Recovery Software Ver:	**2.4.1**
Purge Angle:	**0.0°**		

Application Rating is outside the scope of the AHRI ERV Certification Program but is rated in accordance with AHRI Standard 1060.

Summer Conditions



Winter Conditions



Frost Warning - Conditions for frost forming on the energy recovery exists. Outside air preheat is required to prevent frost formation. Optionally, the return air humidity ratio could be lowered to prevent frost formation. See AAON literature titled 'AAONAIRE ENERGY RECOVERY' for details.

Energy Recovery Performance

	Summer	Winter		Summer	Winter		Summer	Winter
Total Capacity	112.5 MBH	261.2 MBH	Total Effectiveness	77.5%	80.7%	Enthalpy Recovery Ratio	68.5%	67.2%
Sensible Capacity	19.8 MBH	189.1 MBH	Sensible Effectiveness	81.8%	81.8%	Sensible Energy Recovery Ratio	70.1%	66.6%
Latent Capacity	92.7 MBH	72.1 MBH	Latent Effectiveness	76.7%	77.8%			

24.5" STAR Plenum

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 363

JOB INFORMATION:

Job Name	*Point One - Richmmond, VA*
Job Tag	*RTU_2_DOAS_Design_Airflow*
Date	*1/27/2026 1:18:16 PM*

WHEEL SPECIFICATION:

Max RPM	*1800*
Diameter x Qty	*24.5 in. x 1*
CFM	*2900*
Inertia	*10 WR²*

OPERATING CONDITIONS

Airflow	*2900*
Fan Energy Index (FEI)	*1.28*
Static Pressure	*2.59 in. w.g.*
Relief Dampers DP	*0.00 in. w.g.*
TSP	*2.59 in. w.g.*
Site Altitude	*0*

MOTOR SELECTION

Rated HP / Bypass	*3 x 1 / No*
Frame Size	*213T*
Nominal RPM	*1170*
VAC/PH/Hz	*460V/3Ø/60Hz*
Enclosure Type	*ODP*
Max Inertial Load	*0 WR²*

FAN PERFORMANCE:

RPM	*1240*
BHP	*1.94*
Efficiency	*61.0%*
Max Duct SP with Blocked Airway	*2.80 in. w.g. @ 1240 RPM*

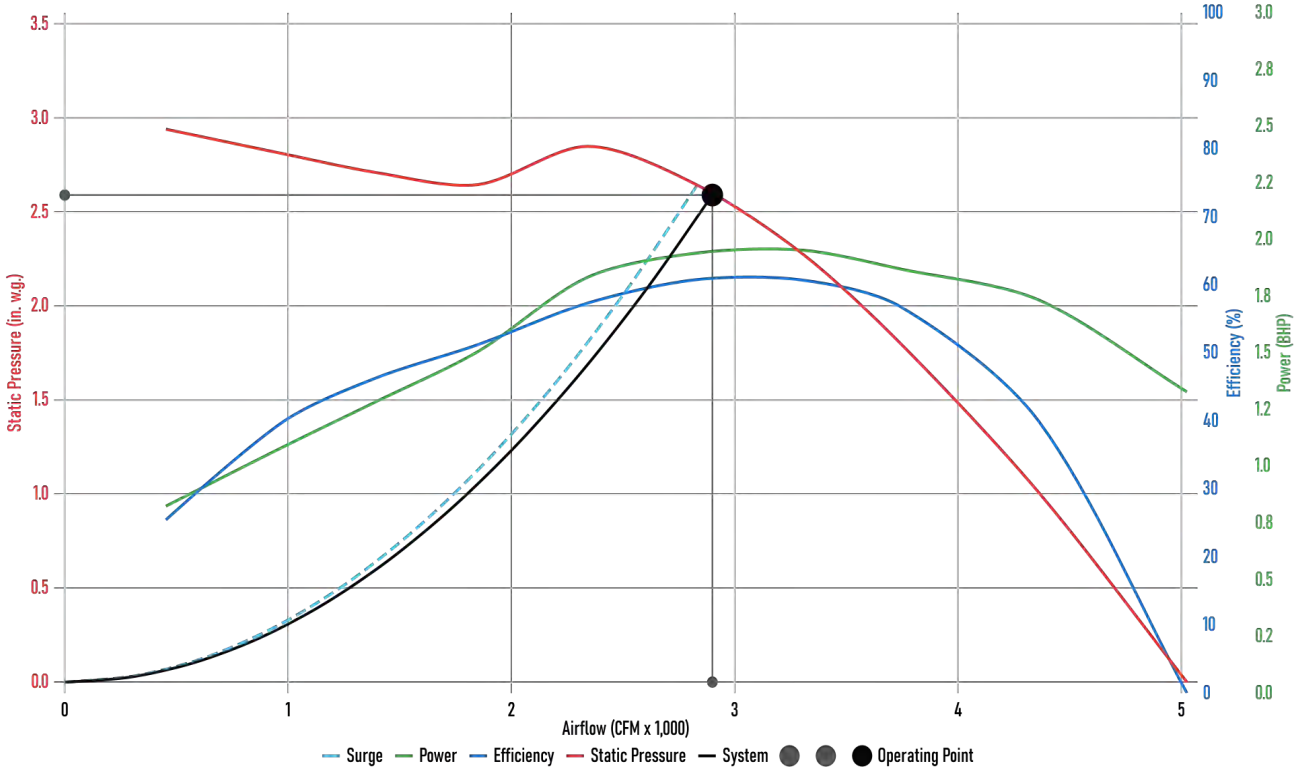
FAN SOUND POWER (Inlet/Outlet)

Octave Band: **(Re 10^-12 watts)**

1	2	3	4	5	6	7	8
87	86	86	85	82	81	78	74
87	86	90	94	93	90	85	78

SOUND POWER A-Weighted: 0 dB

Supply Fan Model: 245D60 @ 1,240 RPM and 84% Width
Design Conditions: 2,900 CFM @ 2.59 in. w.g. SP



22" STAR Plenum

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Ecat Price Version: 363

JOB INFORMATION:

Job Name	*Point One - Richmmond, VA*
Job Tag	*RTU_2_DOAS_Design_Airflow*
Date	*1/27/2026 1:18:16 PM*

WHEEL SPECIFICATION:

Max RPM	*2200*
Diameter x Qty	*22 in. x 1*
CFM	*2500*
Inertia	*5 WR²*

OPERATING CONDITIONS

Airflow	*2500*
Fan Energy Index (FEI)	*1.53*
Static Pressure	*0.99 in. w.g.*
Relief Dampers DP	*0.00 in. w.g.*
TSP	*0.99 in. w.g.*
Site Altitude	*0*

MOTOR SELECTION

Rated HP / Bypass	*1 x 1 / No*
Frame Size	*143T*
Nominal RPM	*1760*
VAC/PH/Hz	*460V/3Ø/60Hz*
Enclosure Type	*ODP*
Max Inertial Load	*0 WR²*

FAN PERFORMANCE

RPM	*998*
BHP	*0.62*
Efficiency	*62.9%*
Max Duct SP with Blocked Airway	*1.60 in. w.g. @ 998 RPM*

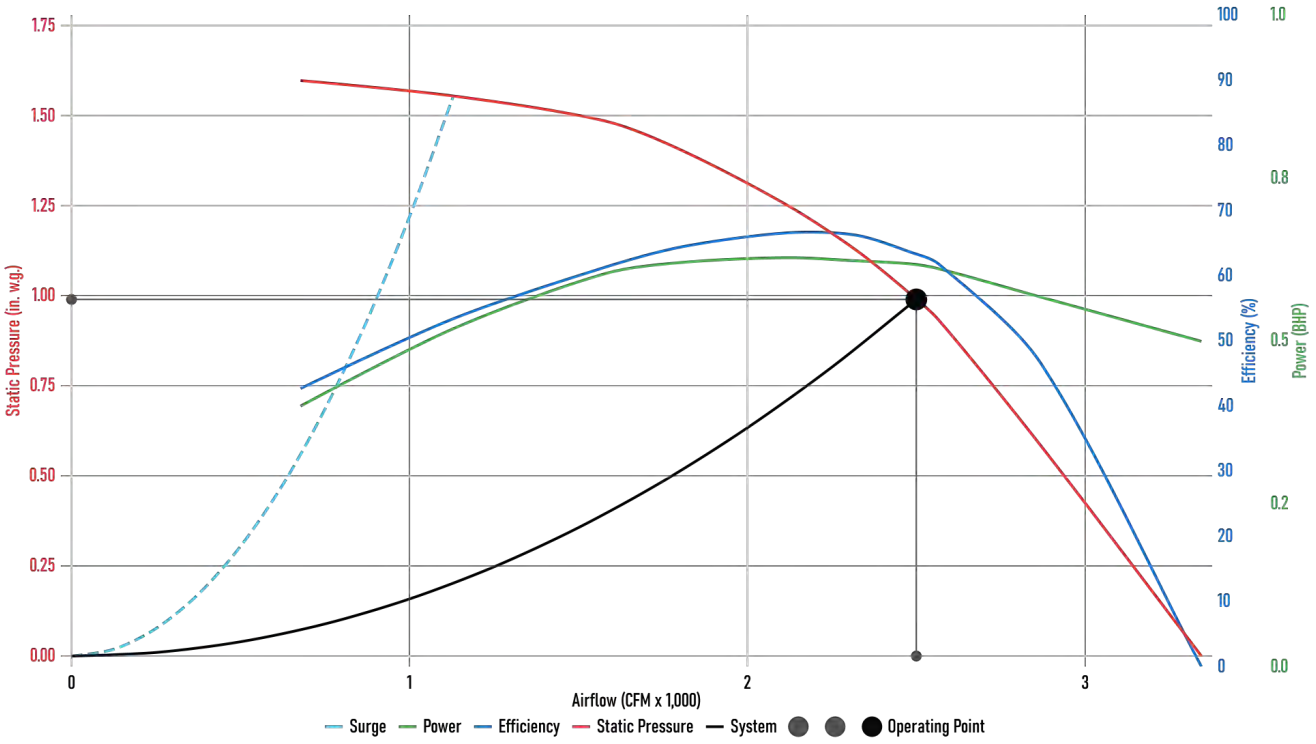
FAN SOUND POWER (Inlet/Outlet)

Octave Band: **(Re 10^-12 watts)**

1	2	3	4	5	6	7	8
79	83	79	73	70	68	63	57
79	83	79	73	70	68	63	57

SOUND POWER A-Weighted: 0 dB

Exhaust Fan Model: RM220AB70 @ 998 RPM and 100% Width
Design Conditions: 2,500 CFM @ 0.99 in. w.g. SP



Unit Submittal

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A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 1 2 3A 3B 3C 3D 3E 4A 4B 4C 5A 5B 5C 5D 5E 6A 6B 6C 6D 6E 7 8 9A 9B 9C

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Tag: RTU_2_DOAS_Design_Airflow

Job Name: Point One - Richmond, VA
Job Number: 2601-0219
Unit Worksheet For:
Unit Worksheet Date: 1/27/2026

	Base Option	Description
RN	Generation	RN Series
A	Major Revision	Major Revision A
020	Unit Size	Twenty
C	Series	C Series
A	Minor Revision	Minor Revision A
3	Voltage	460V/3φ/60Hz
G	Compressor Style	R-454B Variable Capacity Scroll Compressor
J	Condenser Style	Alpha Class - Air-Source Heat Pump
B	Indoor Coil Configuration	6 Row Evaporator
0	Cooling Heat Exchanger Construction	Standard
C	Cooling Staging	1 Variable Capacity Comp + 1 Two-Step Comp
A	Heat Type	Electric Heat (Vertical Unit Configuration)
0	Heat Construction	Standard
2	Heat Designation	40 kW
N	Heat Staging	Modulating SCR Electric - Temperature Control
A	Heat Pump Auxiliary Heating	Auxiliary Heat - 20kW - Modulating

	Feature Option		Description
0	F1.	Unit Orientation	Standard Access - Hinged Access Doors with Lockable Handles
0	F2.	Supply & Return Locations	Bottom Supply--Bottom Return
0	F3A.	Supply Fan Quantity	1 Fan
F	F3B.	Supply Fan Configuration	1 Fan per VFD + Narrow Width Fan
F	F3C.	Supply Fan Size	24" Direct Drive Backward Curved Aluminum
0	F3D.	Supply Fan Motor Type	High Efficiency Open Motor (1,200 nominal rpm)
G	F3E.	Supply Fan Motor Size	3 hp
K	F4A.	Outside Air Section	Economizer + Energy Recovery
A	F4B.	Energy Recovery Type	Polymer Energy Recovery Wheel
K	F4C.	Energy Recovery Size	High CFM Enthalpy + Exhaust Filters
0	F5A.	Return Fan Quantity	0 Return Fans
0	F5B.	Return Fan Configuration	No Return Fan
0	F5C.	Return Fan Size	No Return Fan
0	F5D.	Return Fan Motor Type	No Return Fan
0	F5E.	Return Fan Motor Size	No Return Fan
A	F6A.	Exhaust Fan Quantity	1 Fan
G	F6B.	Exhaust Fan Configuration	1 Fan per VFD + Narrow Width Fan
L	F6C.	Exhaust Fan Size	22" Backward Curved Aluminum
B	F6D.	Exhaust Fan Motor Type	High Efficiency Open Motor (1,800 nominal rpm)
E	F6E.	Exhaust Fan Motor Size	1 hp
D	F7.	Outside Air Control	Fully Modulating Actuator - Enthalpy Limit
C	F8.	Return and Exhaust Air Options	Standard Barometric Relief EA Dampers
C	F9A.	Unit Filter Type	2" Pleated MERV 8 + 4" Pleated MERV 13
B	F9B.	Unit Filter Size & Location	High Efficiency Filters in Standard Position
0	F9C.	Final Filter Type	No Final Filters
K	F9D.	Filter Options	CFS + Magnehelic Gauge - Unit + Energy Recovery Filters
0	F10A.	Refrigeration Control A	Standard - Adj Comp. Cooling Lock Out Through Unit Controls

	Feature Option		Description
0	F10B.	Refrigeration Control B	Standard
E	F11A.	Refrigeration Options A	Modulating Hot Gas Reheat Microchannel Coil [MHGR-MC]
0	F11B.	Refrigeration Options B	Standard Packaged Unit
B	F12.	Refrigeration Accessories	Compressor Isolation Valves
B	F13A.	Unit Disconnect Type	Single Point Power - Circuit Breaker
M	F13B.	Disconnect 1 Size	90 Amps
0	F13C.	Disconnect 2 Size	Standard - None
M	F14.	Safety Options	RA Smoke Detector + Remote Safety Shutdown Terminals
B	F15.	Electrical Accessories	Phase & Brown Out Protection
S	F16A.	Control Sequence	DX-DOAS Heat Pump Controls
A	F16B.	Control Supplier	AAON Controls
0	F16C.	Control Supplier Options	None
A	F16D.	BMS Connection & Diagnostics	BACnet IP or MSTP
0	F17A.	Preheat Configuration	Standard - None
0	F17B.	Preheat Sizing	Standard - None
0	F18A.	Option Box Location	None
0	F18B.	Option Box Size	None
0	F18C.	Option Box Accessories	None
B	F19.	Outside Air Accessories	Outside Air Hood with Metal Mesh Filters
A	F20.	Cabinet Options	Base Insulation
0	F21.	Accessories	Standard
B	F22.	Maintenance Accessories	Field Wired 115V Convenience Outlet
0	F23.	Code Options	Standard - ETL U.S.A. Listing
0	F24.	Shipping Splits	Standard
C	F25.	Air-Cooled Condenser Accessories	ECM Condenser Fan Head Pressure Control
0	F26.	Evap-Cooled Condenser Accessories	Standard
0	F27.	Water-Cooled Condenser Accessories	None
F	F28.	Energy Recovery Accessories	ERW Defrost - Start/Stop + ERW Rotation Detection
0	F29.	VFD Options	Standard
D	F30.	Miscellaneous Options	High Unit SCCR (65kA)
0	F31.	Blank	Standard
0	F32.	Blank	Standard
0	F33.	Blank	Standard
0	F34.	Blank	Standard
0	F35.	Warranty	Standard Warranty
0	F36.	Cabinet Material	Galvanized Cabinet - Double Wall + R-16 Foam Insulation
E	F37.	Specials & Paint	Premium AAON Gray Paint Exterior + Shrink Wrap

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Ecat Price Version: 363

A1 A2 A3 A4 A5 B1 B2 B3 B4 B5 1 2 3A 3B 3C 3D 3E 4A 4B 4C 5A 5B 5C 5D 5E 6A 6B 6C 6D 6E 7 8 9A 9B 9C

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K-00-E0-B-BM0-MB-SA0A-00-000-BA0B00-C00F0D-000000E

9D 10A 10B 11A 11B 12 13A 13B 13C 14 15 16A 16B 16C 16D 17A 17B 18A 18B 18C 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

Tag: RTU_2_DOAS_Design_Airflow

Job Name: Point One - Richmmond, VA

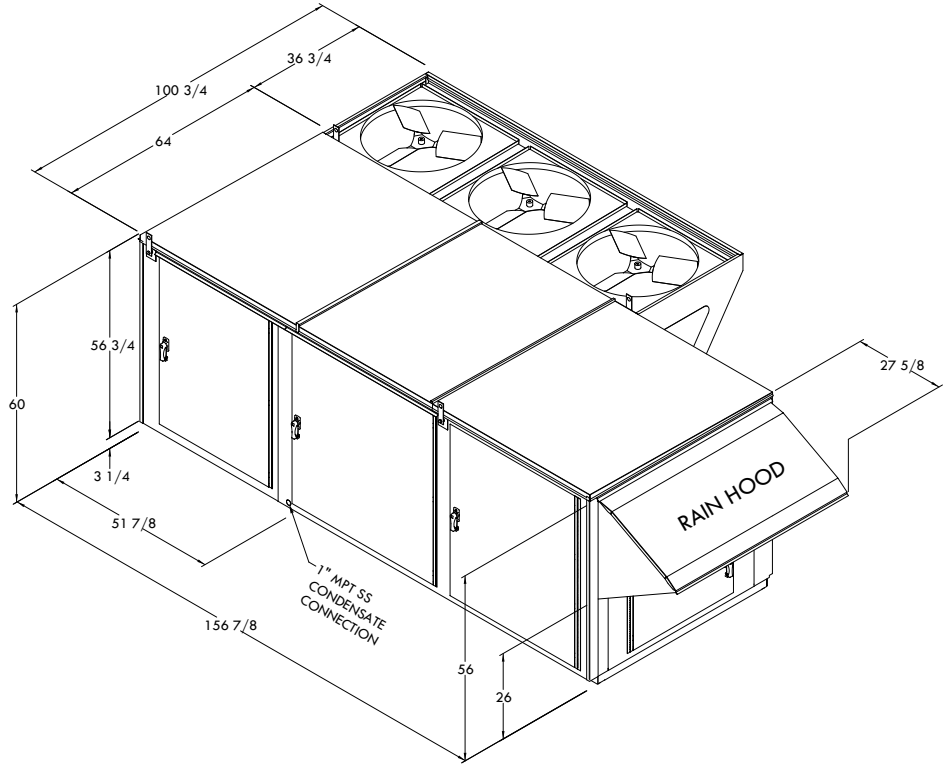
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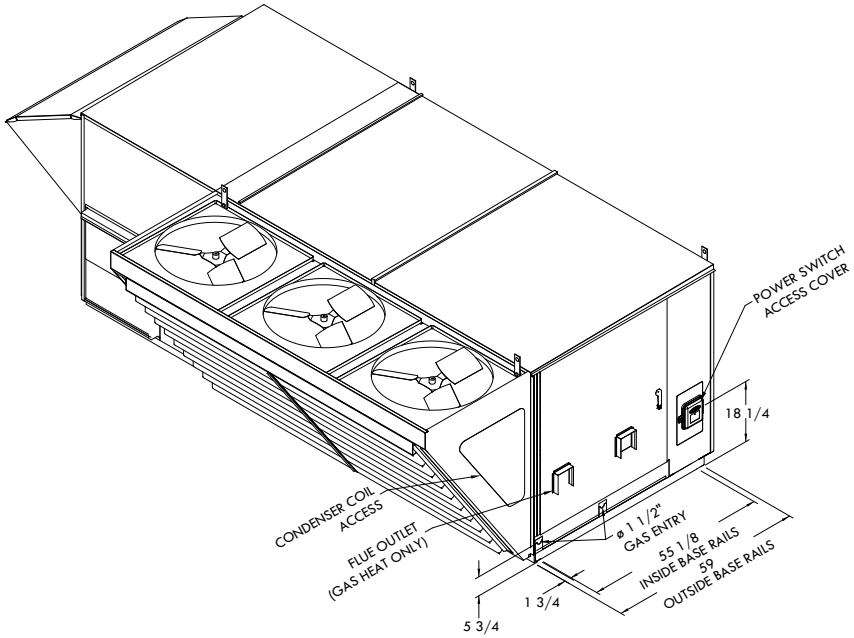
Job Number: 2601-0219

Date: January 27, 2026

Part#	Included Parts	Assigned Channel	BACnet Point
ASM07503	VCCX-454 CONTROLLER		
ASM01692	OSA Temp/Hum Sensor	EBUS2 Communicating Sensor	AI:16,AI:17,AI:18,AI:19
ASM01832	Building Pressure Sensor - Field Installed	VCCX Control Point AI5	AI:23
ASM07413	Supply Air Temp/Hum Sensor - Field Installed	EBUS7 Communicating Sensor	AI:9;AI:283;AI:284
	Supply Fan Control Signal 0-10VDC	VCCX Control Point AO1	AI:22
	Economizer	VCCX Control Point AO2	AI:30
	Modulated Heating (0-10VDC)	VCCX Control Point AO3	AI:35
	Building Pressure Control Signal	VCCX Control Point AO4	AI:24
R62330	Proof of Air Flow	VCCX Control Point BI1	BI:6, BI:24
G150620	Clogged Filter Switch (Standard Filters)	VCCX Control Point BI2	BI:25
G150620	Clogged Filter Switch (ERV Wheel O/A Filter)	VCCX Control Point BI2	BI:25
G150620	Clogged Filter Switch (ERV Wheel Exhaust Filter)	VCCX Control Point BI2	BI:25
	A2L Airstream Leak Detect Status	VCCX Control Point BI5	BI:9
	Safety Shut Down	VCCX Control Point BI8	BI:26
	Energy Recovery Wheel Rotation Detect - BACnet Point Not Pulled in by VCCX	Configured Relay Point	BI:0
	Supply Fan	Configured Relay Point	BI:1
	Exhaust Fan	Configured Relay Point	BI:2
	Energy Recovery Wheel	Configured Relay Point	BI:3
	Heat 1	Configured Relay Point	BI:4
ASM07563	A2L MITIGATION BOARD 1		
G137750	Gas Sensor 1	A2L MB1 AI1	
	Supply Fan Proof of Flow	A2L MB1 BI1	
	Alarm Output	A2L MB1 Fixed RO3	
ASM07716	REFRIGERATION MODULE 1		
V38391	Suction Pressure Sensor A	RM454-D 1 SP-1	AI:48
	Comp Discharge Temp A	RM454-D 1 TEMP1	AI:66
	Modulated Condenser Signal A/C	RM454-D 1 AOUT1	AI:46
G017740	O.D. Coil Defrost Temp Switch A	RM454-D 1 BIN3	BI:81
	Comp Status Input A	RM454-D 1 BIN1	BI:77
	Emergency Shutdown	RM454-D 1 BIN4	BI:83
	Comp Enable A	RM454-D 1 RLY1	BI:84
	Comp Unload Signal A	RM454-D 1 COMP1	AI:44
	Reversing Valve Enable A/C	RM454-D 1 RLY5	BI:88
ASM07716	REFRIGERATION MODULE 2		
V38391	Suction Pressure Sensor B	RM454-D 2 SP-1	AI:73

	Comp Discharge Temp B	RM454-D 2 TEMP1	AI:91
G017740	O.D. Coil Defrost Temp Switch B	RM454-D 2 BIN3	BI:93
	Comp Status Input B	RM454-D 2 BIN1	BI:89
	Emergency Shutdown	RM454-D 2 BIN4	BI:95
	Comp Enable B	RM454-D 2 RLY1	BI:96
	Comp Unload Signal B	RM454-D 2 COMP1	AI:69
	Reversing Valve Enable B&D	RM454-D 2 RLY5	BI:100
ASM01670	MODULATING HOT GAS REHEAT MODULE		
	Reheat HGR Valve	MHGRV-X	AI:42

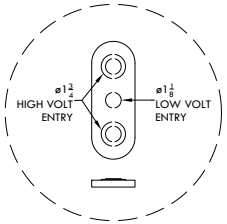




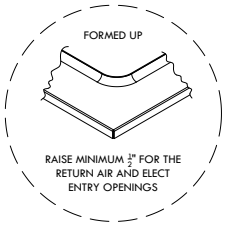
ALL DIMENSIONS IN INCHES

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, RA FILTERS, POWER EXHAUST

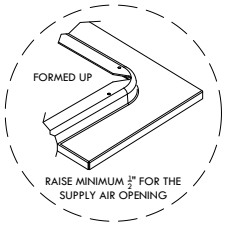
Job Name	Unit Tag	Drawing No.
Point One - Richmmond, VA	RTU_2_DOAS_Design_Option	RAC100138



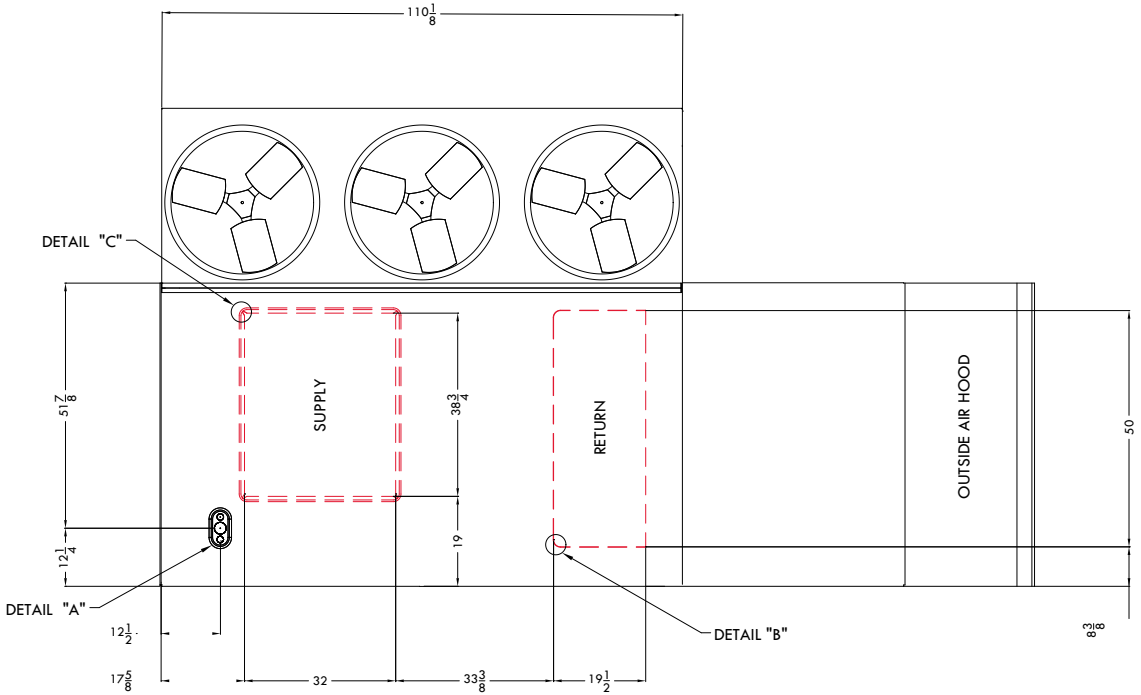
DETAIL A
UTILITY ENTRY

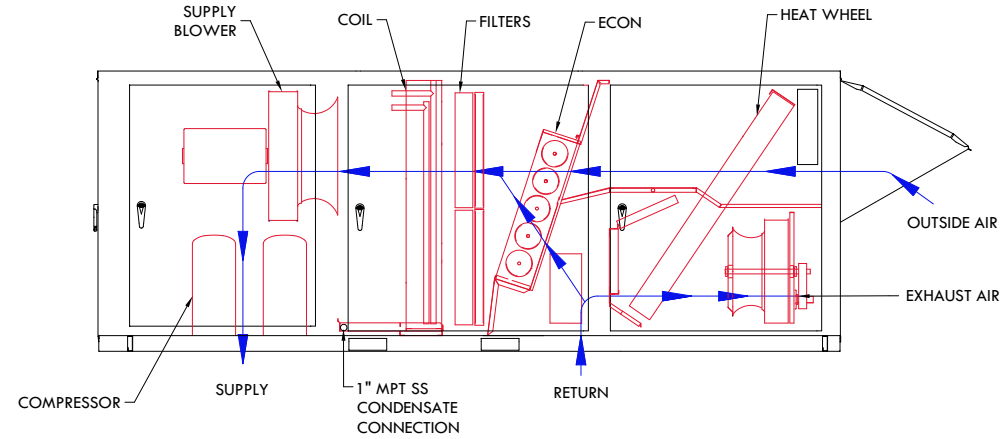


DETAIL B
RETURN AIR AND UTILITY
ENTRY OPENINGS



DETAIL C
SUPPLY AIR OPENING





ALL DIMENSIONS IN INCHES

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, RA FILTERS, POWER EXHAUST

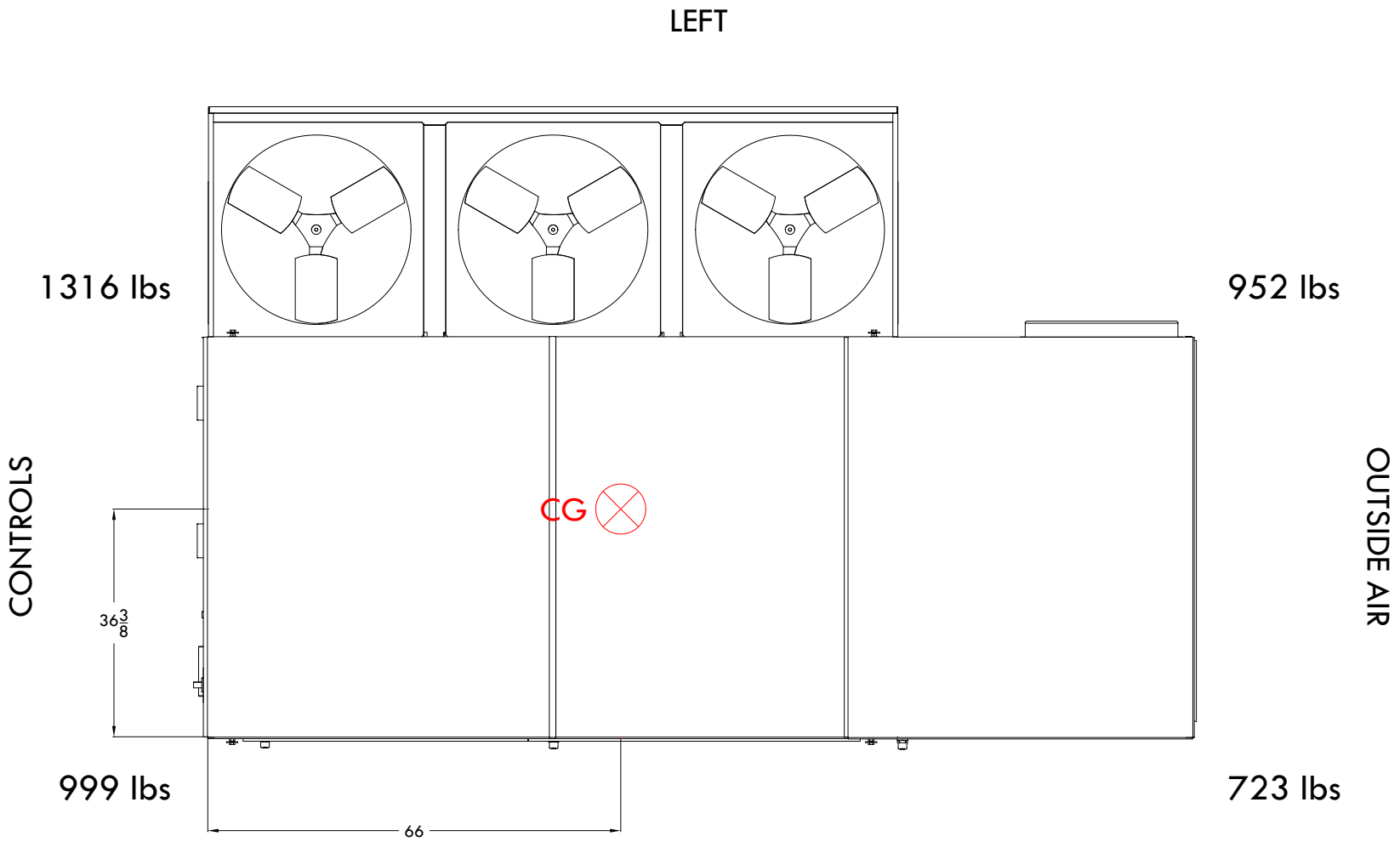
Job Name	Unit Tag	Drawing No.
Point One - Richmmond, VA	RTU_2_DOAS_Design_RAC00138	RAC00138

RNA-020-C-A-3-GJB0C-A02NA:00-0FF0G-KAK-00000-AGLBE-DC-CB0K-00-E0-B-BM0-MB-SA0A-00-000-BA0B00-C00F0D-000000E

Shipping Weight: 3991 lbs ±5%

Operating Weight: 3991 lbs ±5%

Center of Gravity (X, Y): 66.0 in, 36.4 in



ALL DIMENSIONS IN INCHES

		UNIT CORNER WEIGHTS AND CG	
Job Name: Point One - Richmmond, VA	Unit Tag: RTU_2_DOAS_Design_Engine	Drawing No.: RAC0000138	

Appendix AQ3
Air Quality Impact Modeling and Support Data

Figure AQ3-1
Charcot Land Use Categories within 3 km
NLCD 2024

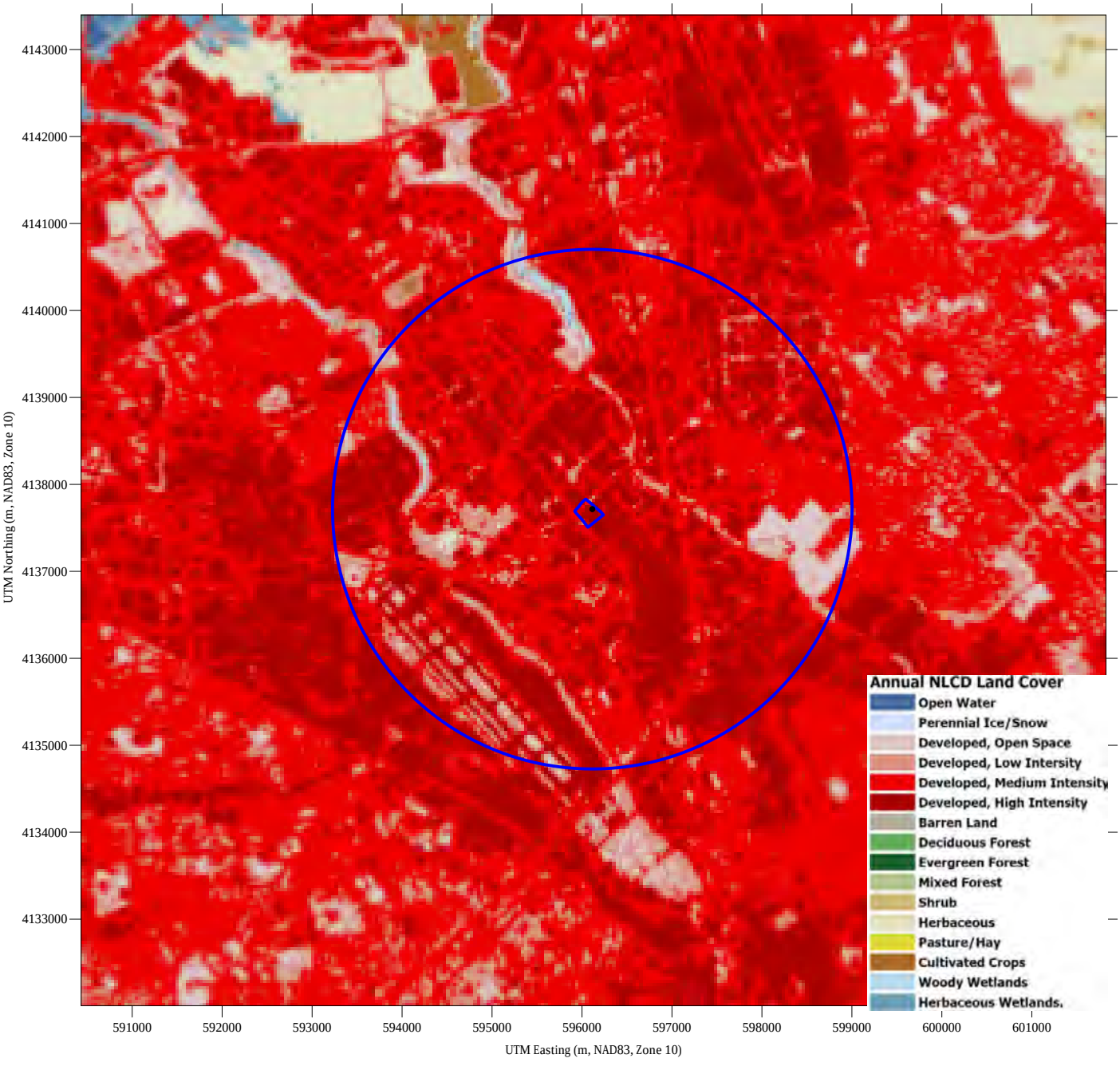
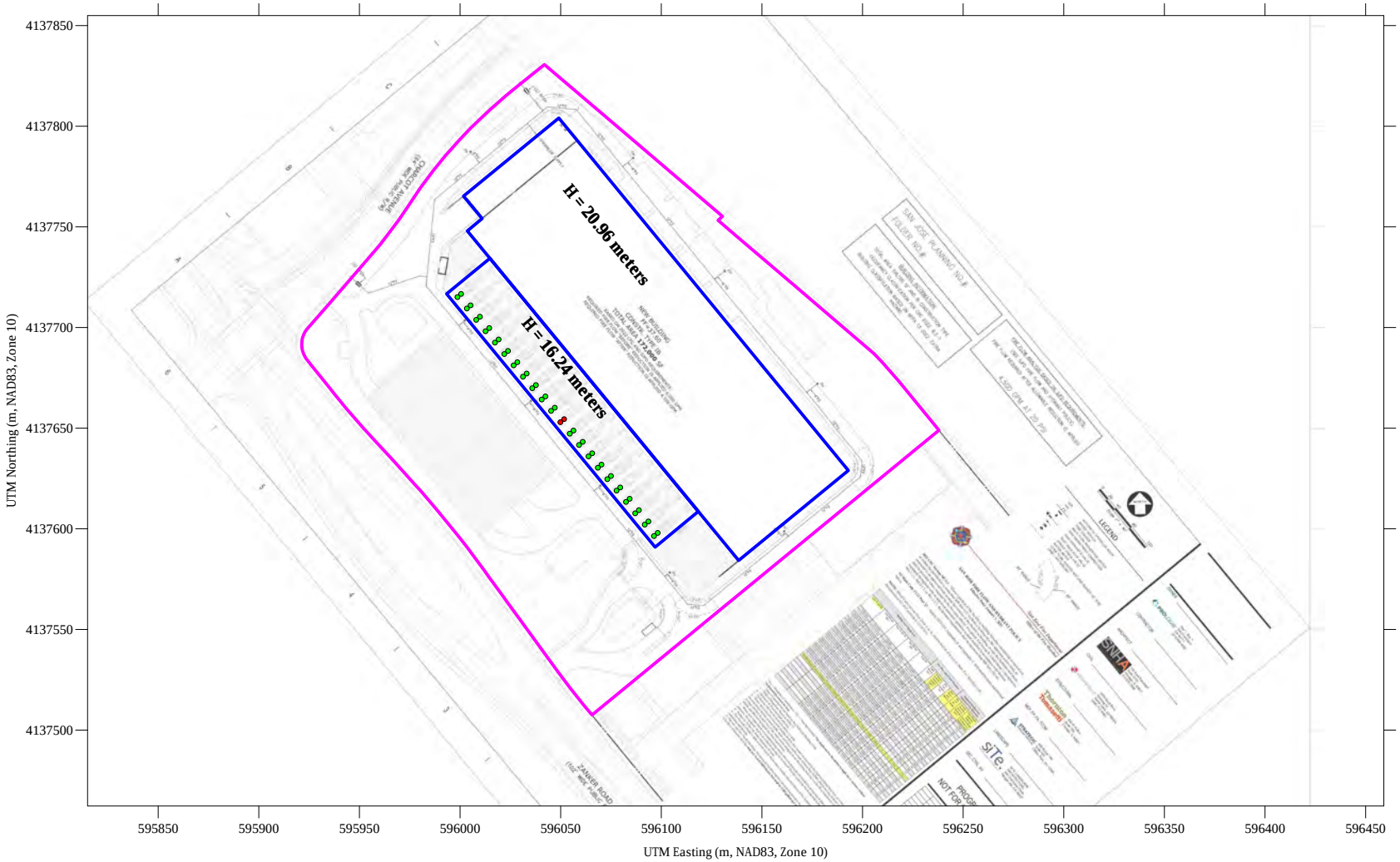


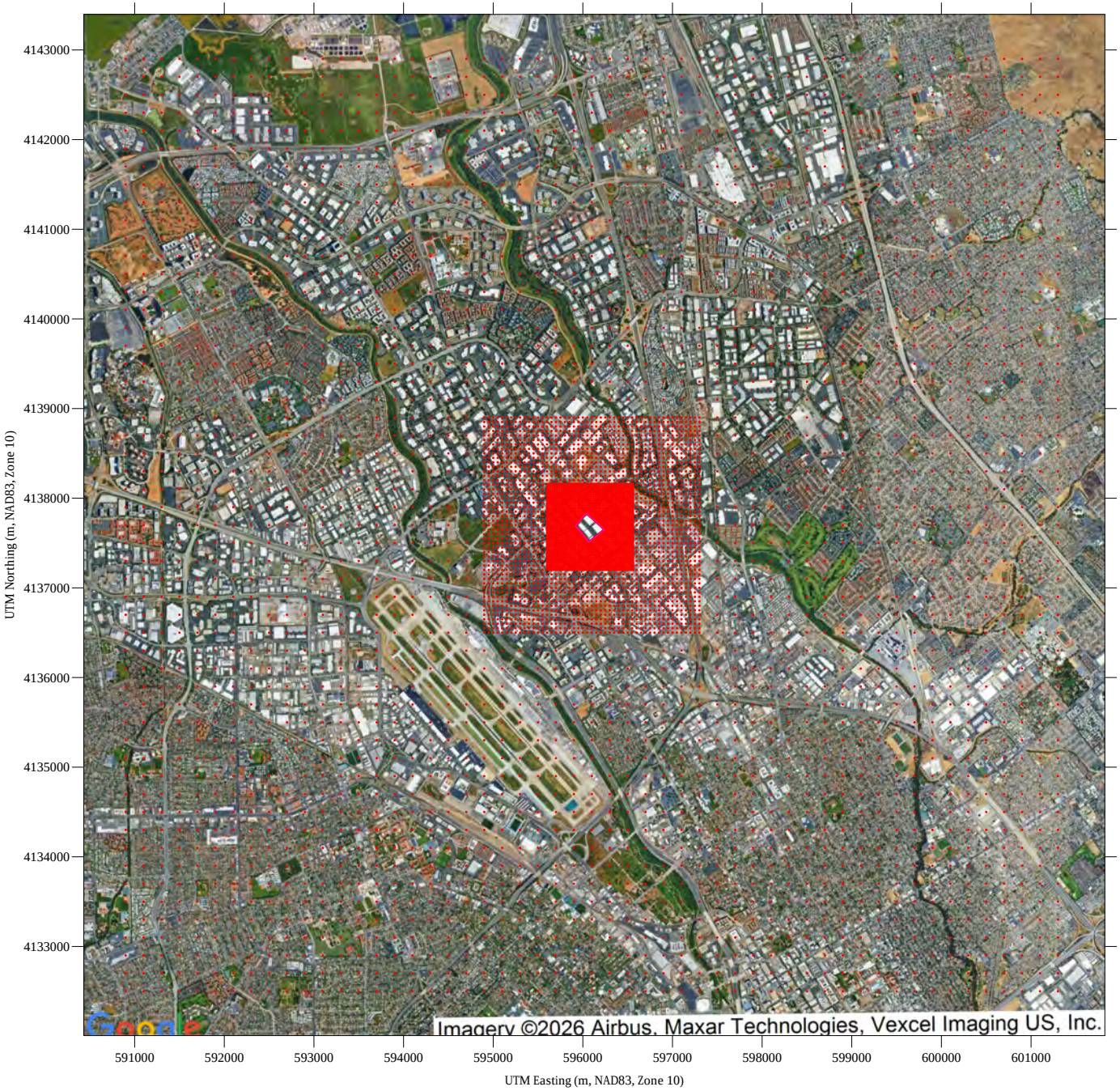
Figure AQ3-2
Building Heights Used in BPIP-PRIME



Caterpillar 3516E HPD

Caterpillar 3512C

Figure AQ3-3
Nested Recepter Grids



Prologis Charcot 1-Hour NO_2 Screening

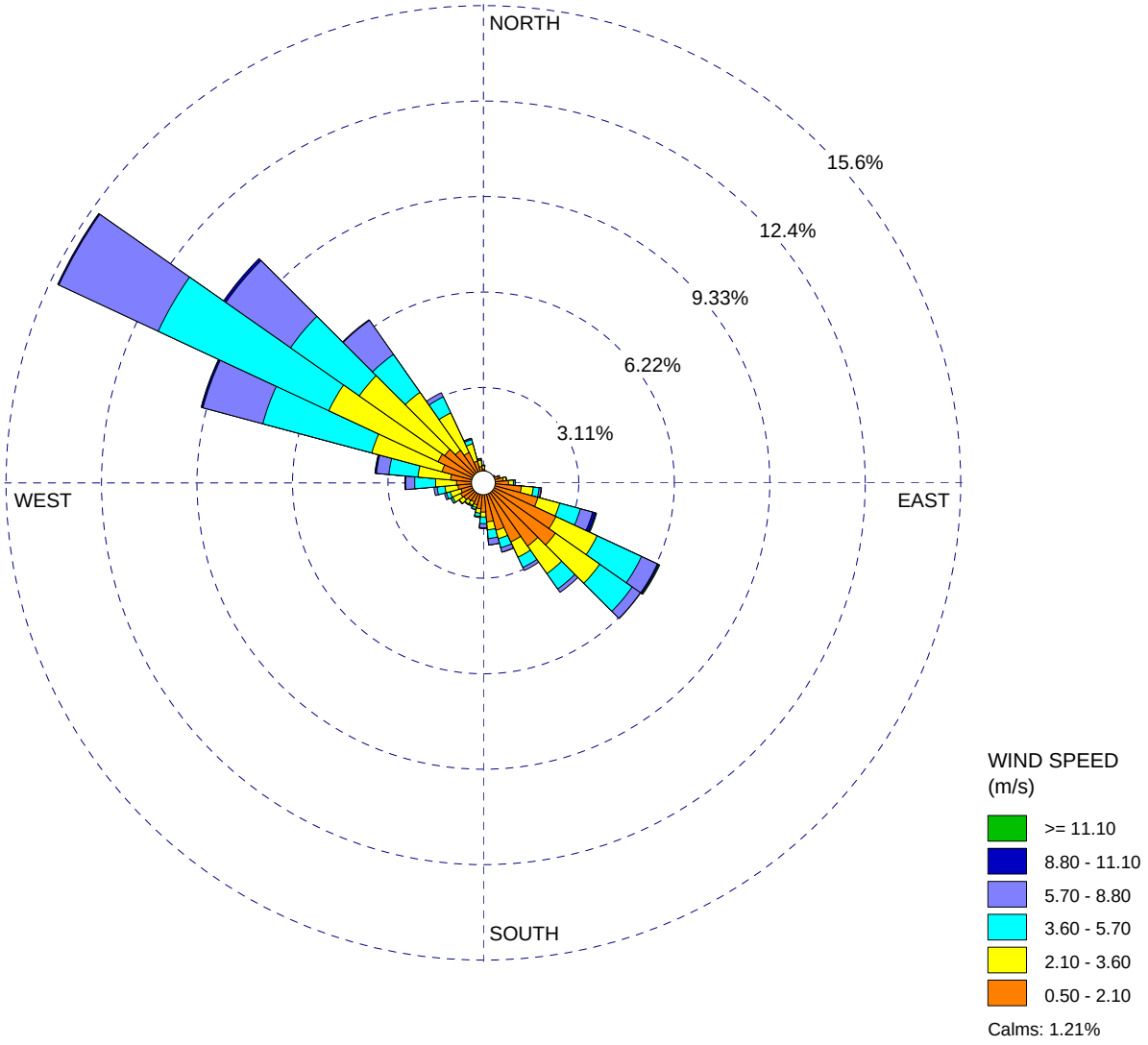
	Maximum H1H						H8H Averaged Over 5 Years				
Stack	100% Load ($\mu g/m^3$)	75% Load ($\mu g/m^3$)	50% Load ($\mu g/m^3$)	25% Load ($\mu g/m^3$)	10% Load ($\mu g/m^3$)	Stack	100% Load ($\mu g/m^3$)	75% Load ($\mu g/m^3$)	50% Load ($\mu g/m^3$)	25% Load ($\mu g/m^3$)	10% Load ($\mu g/m^3$)
1601	213.25	172.11	127.72	89.71	54.51	1601	158.19	128.97	99.16	71.45	42.78
1602	209.12	169.37	125.91	88.17	53.26	1602	154.33	126.07	96.79	69.17	41.40
1603	208.59	168.69	124.83	93.30	55.79	1603	162.26	132.22	100.26	71.95	43.72
1604	204.97	165.61	123.06	90.10	55.13	1604	159.17	128.50	96.17	69.82	42.26
1605	199.45	161.24	120.18	93.11	55.98	1605	161.50	130.88	96.35	71.52	42.98
1606	195.83	158.10	118.28	91.26	56.49	1606	159.14	126.54	94.56	69.14	41.88
1607	195.80	158.26	116.50	89.83	55.56	1607	165.75	133.31	98.21	73.07	44.05
1608	193.99	157.04	117.38	91.77	56.77	1608	162.18	130.65	96.15	71.12	42.40
1609	192.17	157.96	116.98	87.46	54.86	1609	168.21	136.29	100.51	73.80	45.03
1610	190.06	159.20	115.76	89.23	55.32	1610	165.24	134.31	98.49	72.03	43.69
1611	195.63	160.97	118.82	90.66	55.58	1611	169.66	138.11	102.47	75.17	45.72
1612	192.99	161.44	117.55	88.68	55.36	1612	167.79	136.67	100.30	73.41	44.50
1613	197.40	162.23	119.80	91.73	55.72	1613	174.09	141.29	104.84	76.51	47.47
1614	194.15	162.76	118.47	89.91	56.09	1614	170.95	138.43	101.61	73.90	45.50
1615	199.36	164.30	120.56	89.84	55.50	1615	176.19	141.75	105.06	77.22	48.41
1616	195.92	164.35	118.96	90.85	55.72	1616	170.64	140.42	102.98	74.77	46.39
1617	200.63	164.29	121.38	92.50	56.52	1617	176.00	141.05	104.32	77.95	49.09
1618	198.65	164.96	120.00	90.48	56.60	1618	173.21	141.05	104.11	75.52	47.43
1619	199.79	164.10	121.10	92.88	57.50	1619	173.33	139.63	104.68	77.91	48.19
1620	198.84	165.93	120.70	90.40	56.86	1620	176.80	141.62	105.01	76.79	48.67
1621	200.34	163.38	121.28	90.62	57.56	1621	171.98	139.44	104.32	77.47	48.01
1622	202.37	165.07	120.56	91.33	58.03	1622	175.90	140.45	105.10	76.78	47.99
1623	196.95	164.60	119.86	92.73	58.22	1623	166.04	132.53	99.59	76.29	47.06
1624	198.43	161.67	119.76	90.82	58.24	1624	169.58	138.20	102.82	76.39	47.75
1625	195.88	160.88	118.63	89.61	58.60	1625	163.99	129.82	96.60	75.71	46.86
1626	196.53	157.60	118.81	90.79	57.22	1626	167.94	133.85	100.46	76.03	46.73
1627	190.89	159.49	117.06	88.97	57.91	1627	159.01	128.28	94.74	75.25	46.52
1628	195.78	157.07	117.15	87.87	56.35	1628	163.84	130.50	98.24	73.08	45.62
1629	187.49	156.27	116.24	88.05	57.21	1629	155.48	124.68	92.83	74.16	46.10
1630	193.37	155.53	115.76	89.79	55.39	1630	160.14	128.10	93.86	73.42	45.16
1631	186.75	154.42	114.63	89.72	56.27	1631	150.97	122.57	91.67	74.15	45.62
1632	189.29	153.01	114.44	88.66	54.04	1632	155.00	125.67	91.42	72.54	44.27
1633	182.54	152.11	112.41	88.94	54.31	1633	150.41	119.85	90.27	72.81	44.76
1634	184.73	149.93	111.93	87.45	53.22	1634	151.98	121.24	92.15	70.70	42.98
1635	185.52	153.86	112.90	90.26	54.00	1635	145.86	117.52	88.26	71.35	43.24
1636	189.04	151.64	111.87	89.40	53.38	1636	148.71	120.24	90.05	70.22	42.29
1637	192.83	158.53	118.77	92.50	55.97	1637	146.25	118.88	89.16	72.07	44.12
1638	199.58	161.47	121.82	92.21	61.29	1638	169.81	136.56	102.24	77.97	52.17
1639	194.94	160.15	121.36	93.25	57.78	1639	144.53	116.73	87.88	71.16	44.80
1640	197.94	159.92	119.42	92.05	62.51	1640	166.67	135.26	100.10	76.88	52.40
1641	198.14	160.77	121.06	94.67	64.25	1641	168.07	135.43	100.06	78.20	54.06
1642	192.55	155.48	116.65	89.99	61.72	1642	159.53	128.24	96.13	74.92	52.26
1201	136.22	112.77	88.01	60.19	41.75	1201	116.16	95.12	73.88	49.64	32.53
1202	134.73	109.56	86.41	60.62	40.45	1202	117.18	95.15	73.63	50.00	31.69

WIND ROSE PLOT:

Annual Wind Rose (5 Years)
San Jose International Airport Wind Rose (2013-2017)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2013 - 00:00** **End Date: 12/31/2017 - 23:59**	COMPANY NAME: **Atmospheric Dynamics, Inc.**	
		MODELER: **Alfred E. Neuman**	
	CALM WINDS: **1.21%**	TOTAL COUNT: **43766 hrs.**	
	AVG. WIND SPEED: **3.19 m/s**	DATE: **10/11/2026**	PROJECT NO.:

Appendix AQ4
Construction and Miscellaneous Operations Emissions and Support Data

Figure AQ4-1
Point and Area Sources Used in the Construction Modeling

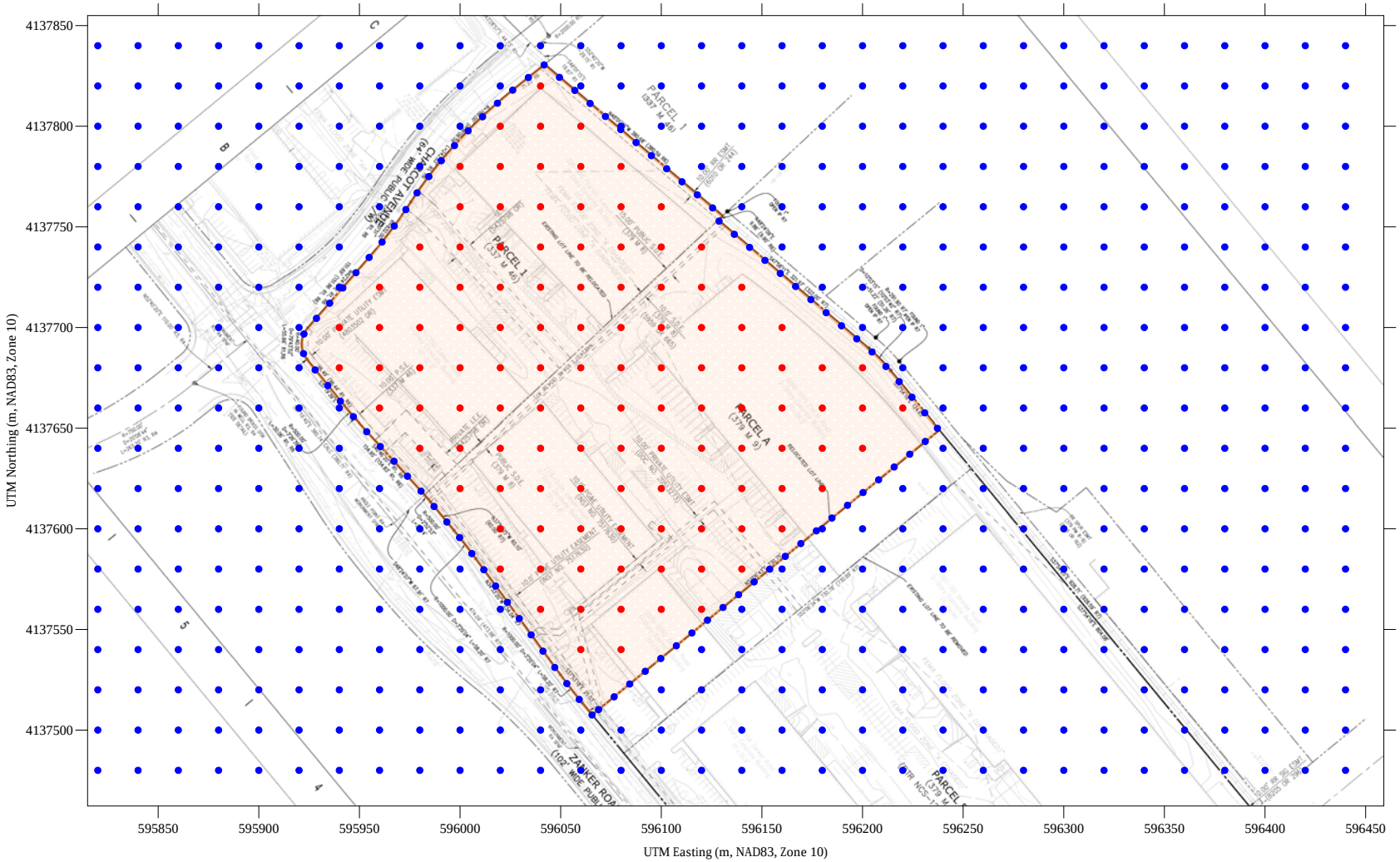


Table AQ4-1 Data Center Construction Input Data for CalEEMod										
					Single Shift Scenario					
	See Important Input notes at bottom!									
	Project Name:	**Prologis Charcot**		**Construction Emissions Input Data**					Total sf of buildings to be demolished	362895
	Total Project Area, acres	12.9		Parking garage ft^2				0	Asphalt demolished/hauled, tons	0
	Area to be disturbed during construction, acres	12.9		Parking garage # of spaces				0	Septic or Sewer ?	Sewer
				Parking lot, streets, etc. ft^2				80000	Electric Utility ?	PG&E
	Data Center , ft^2	516000	**3 story bldg**	Parking lot # of spaces				66	Water Agency ?	SJ Muni
C7.2	Each floor, ft^2	171387		Construction Schedule, Hrs/day				10	Average construction days per month	25
	Gen Yard, ft^2	~60000	**Non-enclosed area**	Days per week	6	Weeks per year		52	Anticipated start date of construction	9/1/2027
A1.1	Other, ft^2	142003	**Landscaping**	Construction period, total months				22	Facility Ops start year	2030
Qty	**Description**	**HP****	**CARB Load Factor**	**Hours/day, see labor note**	**Total Onsite Days**	**Avg. Hours per day**	**Hours per Phase**	**HP/Hrs per Phase**	**Comments**	**Input Values**
Demolition		**Start Date:**	**9/1/2027**	**Wrk Days/phase:**						**30**
		End Date:	**1/1/2028**	**105**					**Overall Import/Export Volumes**	
6	Concrete/Industrial Saws	33	0.73	8	10	0.8	8	1,509	**Demolition Volume**	
2	Excavators	36	0.38	8	30	2.3	69	4,937	Square footage of buildings to be demolished	362895
1	Rubber-Tired Dozers	367	0.4	8	20	1.5	30	11,185	(*or* total tons to be hauled)	
2	Tractors/Loaders/Backhoes	84	0.37	8	20	1.5	30		**Existing buildings)** square feet *or*	
2	Rubber-Tired Loaders	150	0.36	8	20	1.5	30	9,143	Hauling volume (tons)	
1	Water truck	82	0.38	8	15	1.1	17	1,406		
									Any pavement demolished and hauled? **tons**	
Site Cleanup/Preparation		**Start Date:**	**11/1/2027**	**Wrk Days/phase:**						**60**
		End Date:	**3/1/2028**	**104**						
2	Graders	148	0.41	8	23	1.8	41	12,045	**Soil Hauling Volume**	
1	Rubber Tired Dozers	367	0.4	8	30	2.3	69	25,408	Export volume, yd3	
3	Tractors/Loaders/Backhoes	84	0.37	8	30	2.3	69	17,446	Import volume, yd3	
1	Rubber -Tired Loaders	150	0.36	8	30	2.3	69	10,385		
1	Water truck	82	0.38	8	30	2.3	69.2308	5,677		
Grading /Trenching/Foundations		**Start Date:**	**2/1/2028**	**Wrk Days/phase:**						**60**
(includes offsite trenching for linears)		**End Date:**	**7/1/2028**	**130**						
2	Cranes	367	0.29	8	120	7.4	886	650,437		
1	Scrapers	423	0.48	8	40	2.5	98	41,649	**Soil Hauling Volume**	C4.0
1	Rollers	36	0.38	8	10	0.6	6	222	Cut, yd3	16600
2	Graders	148	0.41	8	65	4.0	260	76,960	Fill, yd3	17700
1	Rubber Tired Loaders	150	0.36	8	60	3.7	222	33,231	Spoils, yd3	0
8	Tractors/Loaders/Backhoes	84	0.37	8	65	4.0	260	174,720	Import, yd3	1100
1	Sweepers/Scrubbers	36	0.46	8	65	4.0	260	9,360	Cut and Fill Balanced except for Import	
4	Excavators	36	0.38	8	65	4.0	260	37,440	at 20 yd3/truck = 55 loads	
2	ACP Drill Rig	83	0.5	8	60	3.7	222	36,775		
2	Concrete pump	11	0.74	8	20	1.2	25	542	**Concrete Trucks, Total yd^3 required**	
1	Water truck	82	0.38	8	65	4.0	260	21,320	at 10 yd3/load Loads =	
Building Construction		**Start Date:**	**6/1/2028**	**Wrk Days/phase:**						**250**
	Exterior and Interior	**End Date:**	**6/30/2029**	**338**						
2	Cranes	367	0.29	8	120	2.8	341	250,168		
6	Forklifts	82	0.2	8	225	5.3	1198	589,527		

3	Generators	14	0.74	8	225	5.0				
1	Exavators	36	0.38	8	65	4.0				
24	Welders	46	0.45	8	100	2.4	237	261,302		
2	Concrete pump	11	0.74	8	60	1.4	85	1,875	**Cement Trucks, Total yd^3 required**	22295
8	Aerial Lift	46	0.31	8	150	3.6	533	195,976	See Applicant data above per ADI 3/2026	
1	Water truck	82	0.38	8	170	4.0	684	56,090		
Paving Sitework		**Start Date:**	**4/1/2029**	**Wrk Days/phase:**						**60**
		End Date:	**6/30/2029**	**78**						
2	Surfacing Equipment	399	0.3	8	30	3.1	92	73,662	**Asphalt, total yd^3 required**	1000
2	Pavers	81	0.42	8	35	3.6	126	20,354	Applicant data per ADI 3/2026	
2	Paving Equipment	89	0.36	8	35	3.6	126	22,364	at 20 yd3/truck =~ 105 loads	
2	Rollers	36	0.38	8	35	3.6	126	9,046		
0	Tractors/Loaders/Backhoes	84	0.37	8	0	0.0	0	-		
Architectural Coating		**Start Date:**	**4/1/2029**	**Wrk Days/phase:**						**30**
		End Date:	**6/30/2029**	**78**						
3	Compressors	37	0.48	8	33	3.4	111.7	12,398	**Low VOC coatings used on Exterior ?**	Yes
1	Aerial Lifts	46	0.31	8	33	3.4	111.7	5,138	**Low VOC coatings used on Interior?**	Yes
0		0	0.00	8	0	0.0	0.0	-		

It is assumed that water trucks would be used during the following phases:
Demolition and site prep, grading/trenching/foundations at 2X per day.
Building construction at 2X per day.
Paving at 1X day.

Add or subtract phases, equipment, HP, load factors as appropriate.

Assuming union labor

Labor Note:	
Total Daily work schedule, hours:	10
Hours for lunch:	1
AM break, hours:	0.25
PM break, hours:	0.25
Equip maintenance, refueling, etc.	0.5
Resulting work period:	8

******* Not all equipment listed per individual phase will be on-site each day. Equipment will be brought and removed from site on an as-needed basis. *******

***** Parking lots, internal access areas to be paved with asphalt.

** Revised diesel equpment HP values from CalEEMod 2022.1, App G-12.

Notes:

1. Equipment types by phase derived from: (1) CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR (2) CalEEMod Tables 3.2, App D, 2020, OR (3) Applicant supplied data.
2. Avg daily work hours are the total daily site hours minus labor lunch and rest breaks as well as equipment service and fueling time (typically a total of 2 hours per day). Example: 10 hour site day - 2 hours = 8 daily work hours
3. Watering for fugitive dust control at a minimum of 2 times per day
4. Onsite speed will be limited to <=15 mph
5. Const phase will be serviced by only offsite paved roads
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08.
   Optimum trench construction progress rate is 80m (260ft) per day.
   Non-optimum trench construction progress rate is 30m (100 ft) per day.
   An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.
7. Phase start and end dates supplied by the Applicant.
8. CalEEMod defaults used for worker estimates: No, see manpower data supplied by Applicant.
9. Avg month work days = 25
10. Work schedule best estimates above results in ~550 work days (accounting for overlaps of schedules).
11. Avg month daily workforce ~= 100, Peak month 250
12. Offsite soil hauling distance: CalEEMod defaults.

1. Power needs ~99 MW/hr PG&E Carbon Intensity Factor= 206 lbs CO2e/Mwh = 0.0934 MT CO2e/MWh
2. Reclaimed water use for bldg cooling ~ None
3. Potable water use for bldg employees ~6400 gals/yr/employee =~ 288,000 gals/yr = 0.884 acre/ft/yr. CBECS (2012), Table W1, EIA.gov
4. Waste generation rates ~ 1.15 ton/yr/employee ~= 52 tons/yr
5. OPs round trips/day: Employees = 45 max, Visitors = 12, Deliveries = 3
   Estimated OPs total round trips/day = (45 x 1.1)+12+3= 65
6. Landscaping water use is estimated by landscape engineer (Yamasaki) = 6.83 acre/ft/yr
   USDOE-FEMP-PNNL-19498, Table 3, July 2010 (San Francisco turf grass water use.)
7. Ops phase will be serviced by only offsite paved roads
8. ~Total Bldg floor space = 516000 sq.ft. or 516.000 x 10^3
   65 avg daily round trips
   =~ 0.13 RT/day/1000 sq.ft.

Table AQ4-2 Data Center Construction Input Data for CalEEMod										
					Double Shift Scenario					
	See Important Input notes at bottom!									
	Project Name:	**Prologis Charcot**		**Construction Emissions Input Data**					Total sf of buildings to be demolished	362895
	Total Project Area, acres	12.9		Parking garage ft^2				0	Asphalt demolished/hauled, tons	0
	Area to be disturbed during construction, acres	12.9		Parking garage # of spaces				0	Septic or Sewer ?	Sewer
				Parking lot, streets, etc. ft^2				80000	Electric Utility ?	PG&E
	Data Center , ft^2	516000	**3 story bldg**	Parking lot # of spaces				66	Water Agency ?	SJ Muni
C7.2	Each Floor, ft^2	171387		Construction Schedule, Hrs/day				16	Average construction days per month	25
	Gen Yard, ft^2	~60000		Days per week	6	Weeks per year		52	Anticipated start date of construction	9/1/2027
A1.1	Other, ft^2	142003	**Landscaping**	Construction period, total months				17	Facility Ops start year	2030
Qty	**Description**	**HP****	**CARB Load Factor**	**Hours/day, see labor note**	**Total Onsite Days**	**Avg. Hours per day**	**Hours per Phase**	**HP/Hrs per Phase**	**Comments**	**Input Values**
Demolition		**Start Date:**	**9/1/2027**	**Wrk Days/phase:**						**30**
		End Date:	**11/1/2027**	**53**					**Overall Import/Export Volumes**	
6	Concrete/Industrial Saws	33	0.73	16	7	2.1	15	2,929	**Demolition Volume**	
2	Excavators	36	0.38	16	20	6.0	121	8,694	Square footage of buildings to be demolished	
1	Rubber-Tired Dozers	367	0.4	16	13	3.9	51	18,724	(*or* total tons to be hauled)	
2	Tractors/Loaders/Backhoes	84	0.37	16	13	3.9	51	8,571	**Existing buildings)** square feet *or*	362895
2	Rubber-Tired Loaders	150	0.36	16	13	3.9	51	15,306	Hauling volume (tons)	
1	Water truck	82	0.38	16	10	3.0	30	2,475		
									Any pavement demolished and hauled? **tons**	
Site Cleanup/Preparation		**Start Date:**	**10/1/2027**	**Wrk Days/phase:**						**60**
		End Date:	**12/1/2027**	**53**						
2	Graders	148	0.41	16	15	4.5	68	20,106	**Soil Hauling Volume**	
1	Rubber Tired Dozers	367	0.4	16	20	6.0	121	44,317	Export volume, yd3	
3	Tractors/Loaders/Backhoes	84	0.37	16	20	6.0	121	30,430	Import volume, yd3	
1	Rubber -Tired Loaders	150	0.36	16	20	6.0	121	18,113		
1	Water truck	82	0.38	16	20	6.0	120.755	9,902		
Grading /Trenching/Foundations		**Start Date:**	**12/1/2027**	**Wrk Days/phase:**						**60**
(includes offsite trenching for linears)		**End Date:**	**3/1/2028**	**78**						
2	Cranes	367	0.29	16	60	4.3	258	189,372		
1	Scrapers	423	0.48	16	26	5.3	139	58,656	**Soil Hauling Volume**	C4.0
1	Rollers	36	0.38	16	7	1.4	10	362	Cut, yd3	16600
2	Graders	148	0.41	16	43	8.8	379	112,267	Fill, yd3	17700
1	Rubber Tired Loaders	150	0.36	16	40	8.2	328	49,231	Spoils, yd3	0
8	Tractors/Loaders/Backhoes	84	0.37	16	43	8.8	379	254,878	Import, yd3	1100
1	Sweepers/Scrubbers	36	0.46	16	43	8.8	379	13,654	Cut and Fill Balanced except for Import	
4	Excavators	36	0.38	16	43	8.8	379	54,617	at 20 yd3/truck = 55 loads	
2	ACP Drill Rig	83	0.5	16	60	12.3	738	122,585		
2	Concrete pump	11	0.74	16	13	2.7	35	763	**Concrete Trucks, Total yd^3 required**	
1	Water truck	82	0.38	16	43	8.8	379	31,101	at 10 yd3/load Loads =	
Building Construction		**Start Date:**	**3/1/2028**	**Wrk Days/phase:**						**250**
	Exterior and Interior	**End Date:**	**12/1/2028**	**236**						
2	Cranes	367	0.29	16	79	5.4	423	310,569		
6	Forklifts	82	0.2	16	149	10.1	1505	740,535		

3	Generators	14	0.74	16	225	9.0	2025	85,050		
1	Excavators	36	0.38	16	65	9.5	618	22,230		
24	Welders	46	0.45	16	66	4.5	295	326,036		
2	Concrete pump	11	0.74	16	40	2.7	108	2,386	**Cement Trucks, Total yd^3 required**	48150
8	Aerial Lift	46	0.31	16	99	6.7	664	244,527	See Applicant data above per ADI 3/2026	
1	Water truck	82	0.38	16	112	7.6	850	69,736		
Paving Sitework		**Start Date:**	**11/1/2028**	**Wrk Days/phase:**						**60**
		End Date:	**1/30/2029**	**78**						
2	Surfacing Equipment	399	0.3	16	20	4.1	82	65,477	**Asphalt, total yd^3 required**	1000
2	Pavers	81	0.42	16	23	4.7	109	17,579	Applicant data per ADI 3/2026	
2	Paving Equipment	89	0.36	16	23	4.7	109	19,315	at 20 yd3/truck =~ 60 loads	
2	Rollers	36	0.38	16	23	4.7	109	7,813		
0	Tractors/Loaders/Backhoes	84	0.37	16	0	0.0	0	-		
Architectural Coating		**Start Date:**	**11/1/2028**	**Wrk Days/phase:**						**30**
		End Date:	**1/30/2029**	**78**						
3	Compressors	37	0.48	16	22	4.5	99.3	11,020	**Low VOC coatings used on Exterior ?**	Yes
1	Aerial Lifts	46	0.31	16	22	4.5	99.3	4,567	**Low VOC coatings used on Interior?**	Yes
0		0	0.00	16	0	0.0	0.0	-		

It is assumed that water trucks would be used during the following phases:
Demolition and site prep, grading/trenching/foundations at 2X per day.
Building construction at 2X per day.
Paving at 1X day.

Add or subtract phases, equipment, HP, load factors as appropriate.

Assuming union labor

Total Daily work schedule, hours:	20
Hours for lunch:	2
AM break, hours:	0.5
PM break, hours:	0.5
Equip maintenance, refueling, etc.	1
Resulting work period:	16

Labor Note:

******* Not all equipment listed per individual phase will be on-site each day. Equipment will be brought and removed from site on an as-needed basis. *******

***** Parking lots, internal access areas to be paved with asphalt.

** Revised diesel equpment HP values from CalEEMod 2022.1, App G-12.

Notes:

1. Equipment types by phase derived from: (1) CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR (2) CalEEMod Tables 3.2, App D, 2020, OR (3) Applicant supplied data.
2. Avg daily work hours are the total daily site hours minus labor lunch and rest breaks as well as equipment service and fueling time (typically a total of 2 hours per day). Example: 10 hour site day - 2 hours = 8 daily work hours
3. Watering for fugitive dust control at a minimum of 2 times per day
4. Onsite speed will be limited to <=15 mph
5. Const phase will be serviced by only offsite paved roads
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08.
   Optimum trench construction progress rate is 80m (260ft) per day.
   Non-optimum trench construction progress rate is 30m (100 ft) per day.
   An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.
7. Phase start and end dates supplied by the Applicant.
8. CalEEMod defaults used for worker estimates: No, see manpower data supplied by Applicant.
9. Avg month work days = 25
10. Work schedule best estimates above results in ~425 work days (accounting for overlaps of schedules).
11. Avg month daily workforce ~= 100, Peak month 320.
12. Offsite soil hauling distance: CalEEMod defaults.

Other Misc Ops Data for CalEEMod Input (Final Buildout Ops)

1. Power needs ~99 MW/hr PG&E Carbon Intensity Factor= 206 lbs CO2e/Mwh = 0.0934 MT CO2e/MWh
2. Reclaimed water use for bldg cooling ~ None
3. Potable water use for bldg employees ~6400 gals/yr/employee =~ 288,000 gals/yr = 0.884 acre/ft/yr. CBECS (2012), Table W1, EIA.gov
4. Waste generation rates ~ 1.15 ton/yr/employee ~= 52 tons/yr
5. OPs round trips/day: Employees = 45 max, Visitors = 12, Deliveries = 3
   Estimated OPs total round trips/day = (45 x 1.1)+12+3= 65
6. Landscaping water use is estimated by landscape engineer (Yamasaki) = 6.83 acre/ft/yr
   USDOE-FEMP-PNNL-19498, Table 3, July 2010 (San Francisco turf grass water use.)
7. Ops phase will be serviced by only offsite paved roads
8. ~Total Bldg floor space = 516000 sq.ft. or 516.000 x 10^3
   65 avg daily round trips
   =~ 0.13 RT/day/1000 sq.ft.

Table AQ4-3 Air Quality Construction Support Data

Project Name:		**Trimble Expansion Switching Substation**						
	See Equipment Data TAB for type, horsepower and load factor		**Non-Phased Construction**					
	Main Structure Data							
	Large Bldgs (cumulative sq.ft)	**sq.ft. >>**	**0**	**Bldgs >= 5000 sq.ft.**			**9.7**	**Project Site area (acres)**
	Small Bldgs (cumulative sq.ft.)	**sq.ft. >>**	**150**	**Bldgs < 5000 sq.ft.**			8.2	**Acreage affected by construction.**
	Other Site Structures (cumulative sq.ft.)	**sq.ft. >>**	**33000**					**Employees and Operational Year Data**
	Perimeter Wall (linear ft)	**ft. >>**	**2450**					**Total # of MDC Employees (all shifts);**
		sq.ft. >>					2033	**Operational Year: (note: this is for 230 GIS energization, assume 2032 OpDate)**
	Site Area affected by Const.	**sq.ft. >>**	**357192**				1	**Expected # of Operational Visitors to Site per day:**
	Parking Lot Area or Parking Structure	**sq.ft. >>**	**0**	**# parking spaces**	0		0.015	**Expected # of Operational Deliveries to Site per Day (FedEx, DHL, etc.)**
	Construction Days and Hours (Monday-Friday)	**7:00**	**am to**	**5:00**	**pm**			
	All construction start dates and phase dates are tentative and are the Applicants best estimates.		**Site daily hours based on the time period noted above:**	**10**				

Quantity	Phase Descriptions	HP	Load Factor	Avg Daily Work Hours (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments and Support Data
								Overall Import/Export Volumes
	Demolition (none proposed)	**Start Date:**		**Total phase days:**	**0**	**Each**		**Demolition Volume**
		End Date:				**Piece**		Square footage of buildings to be demolished
0	Concrete/Industrial Saws	33	0.73	0	0	#DIV/0!	#DIV/0!	(*or* total tons to be hauled)
0	Excavators	36	0.38	0	0	#DIV/0!	#DIV/0!	_____ square feet *or* **tons** _____
0	Rubber-Tired Dozers	367	0.4	0	0	#DIV/0!	#DIV/0!	
0	Crawler Tractors	87	0.43	0	0	#DIV/0!	#DIV/0!	Demolition debris haul distance to disposal site (miles):
0				0	0	#DIV/0!	#DIV/0!	
0				0	0	#DIV/0!	#DIV/0!	
0	Tractors/Loaders/Backhoes	84	0.37	0	0	#DIV/0!	#DIV/0!	
0	Water Truck	82	0.42	0	0	#DIV/0!	#DIV/0!	
0								Estimated # workers on site: 0
	Site Preparation	**Start Date:**	**10/1/2028**	**Total phase days:**	**22**			**PHASE 1**
		End Date:	**10/31/2028**					**Site Prep Support Data or Comments**
	-							Utilizing existing ornamental fence & add screen until permanent perimeter fence is installed, create entrance in fence.
1	Light duty Auto/Truck (worker commute)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
1	Forklifts	82	0.2	8	2	0.7	1	**Indicate if all or a portion of the cut and fill noted below in the Grading/Excavtion/Trenching/Foundation phase occurs in this phase. (%)**
1	Tractors/Loaders/Backhoes	84	0.37	8	2	0.7	1	
1	1 ton truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Cut Portion =
1	Water Truck	82	0.42	8	5	1.8	9	Fill portion =
0					0	0.0	0	Export portion =
0					0	0.0	0	Import portion =
5								Estimated # workers on site: 10
	Grading / Excavation /Trenching / Foundations (115kV GIS)	**Start Date:**	**11/1/2028**	**Total phase days:**	**129**			Grade entire substation, install entire perimeter fence, install 115kV GIS foundation, conduit
		End Date:	**4/30/2029**					**Soil Hauling Volume (all phases)**
2	1-Ton Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Cut volume = **19680** cubic yards?
1	Water Truck	82	0.42	8	60	3.7	223	Fill volume = **4000** cubic yards?
2	Excavators	36	0.38	8	80	5.0	794	Export volume = **18880** cubic yards?
1	Graders	148	0.41	8	40	2.5	99	Import volume = **3200** cubic yards?
1	Front Loader	150	0.36	8	40	2.5	99	
1	Welders	46	0.45	8	20	1.2	25	Will Cut = Fill No
4	Short Haul Dump Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Estimated # workers on site: 20
4	Long Haul Dump Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Offsite cut and fill haul distance: (miles) = CalEEMod defaults
2	Compactor (vibratory / smooth drum)	36	0.38	8	30	1.9	112	at 20 yd3 per load
1	Concrete Boom Truck	376	0.38	8	2	0.1	0	Export volume = 15600 yd3
5	Concrete truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	780 loads
24								6 loads/day
	Building/Facility Construction (115kV GIS)	**Start Date:**	**5/1/2029**	**Total phase days:**	**326**			115kV GIS enclosure & associated facility installation only
		End Date:	**7/31/2030**					
1	Cranes	367	0.29	8	10	0.2	2	**Cement Trucks? __ deliveries or 7380 yd3**
2	Gradeall Forklifts	82	0.2	8	100	2.5	491	(assumes 10 yd3 per load)
2	Generator Sets	14	0.74	8	250	6.1	3067	Cement data is the cumulative total of all phases.
2	Tractors/Loaders/Backhoes	84	0.37	8	100	2.5	491	738 loads
6	Aerial Lifts	46	0.31	8	100	2.5	1472	2.3 loads/day
6	Light duty Auto/Truck (worker commute)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	

2	Concrete Boom Truck	376	0.38	8	20	0.5	20	Building materials deliveries/day = 2
1	Other Construction Equipment	82	0.42	8	30	0.7	22	
1	Other General Industrial Equipment	35	0.34	8	30	0.7	22	Estimated # workers on site: 35
1	Other Material Handling Equipment	93	0.4	8	30	0.7	22	
2	Concrete truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
2	Semi Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
3	Welders	46	0.45	8	10	0.2	7	
1	Water Truck	82	0.42	8	10	0.2	2	
32								
	Architectural Coating (115kV GIS)	**Start Date:**	**8/1/2030**	**Total phase days:**	**43**			115kV GIS enclosure & associated facility only
		End Date:	**9/30/2030**					
1	Air Compressors	37	0.48	8	5	0.9	5	
1	Aerial LiftS	46	0.31	8	5	0.9	5	Estimated # workers on site: 5
0				8	0	0.0	0	
0				8	0	0.0	0	
2								
	Grading / Excavation /Trenching / Foundations (230kV GIS)	**Start Date:**	**6/1/2031**	**Total phase days:**	**153**			**PHASE 2** - install 230kV GIS foundation, conduit, 230/115kV XMFRs, 2 reactors
		End Date:	**12/31/2031**					**Soil Hauling Volume (all phases)**
2	1-Ton Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Cut volume = **4765** cubic yards?
1	Water Truck	82	0.42	8	60	3.1	188	Fill volume = **1000** cubic yards?
2	Excavators	36	0.38	8	80	4.2	669	Export volume = **4565** cubic yards?
1	Graders	148	0.41	8	40	2.1	84	Import volume = **800** cubic yards?
1	Front Loader	150	0.36	8	40	2.1	84	
1	Welders	46	0.45	8	20	1.0	21	Will Cut = Fill No
4	Short Haul Dump Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Estimated # workers on site: 20
4	Long Haul Dump Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Offsite cut and fill haul distance: (miles) =CalEEMod defaults
2	Compactor (vibratory / smooth drum)	35	0.38	8	30	1.6	94	at 20 yd3 per load
1	Concrete Boom Truck	376	0.38	8	2	0.1	0	Haul volume = 3765 yd3
5	Concrete truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	188 haul trips
24								~1.2 haul trips/day
	Building/Facility Construction (230kV GIS)	**Start Date:**	**1/1/2032**	**Total phase days:**	**325**			230kV GIS only & associated facility installation only
		End Date:	**3/31/2033**					
1	Cranes	367	0.29	8	10	0.2	2	Cement Trucks? __ deliveries or **3850** yd3
2	Gradeall Forklifts	82	0.2	8	100	2.5	492	(assumes 10 yd3 per load)
2	Generator Sets	14	0.74	8	250	6.2	3077	Cement data is the cumulative total of all phases.
2	Tractors/Loaders/Backhoes	84	0.37	8	100	2.5	492	385 deliveries
6	Aerial Lifts	46	0.31	8	100	2.5	1477	1.2 deliveries/day
6	Light duty Auto/Truck (worker commute)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
2	Concrete Boom Truck	376	0.38	8	20	0.5	20	Building materials deliveries/day = 2
1	Other Construction Equipment	82	0.42	8	30	0.7	22	
1	Other General Industrial Equipment	35	0.34	8	30	0.7	22	
1	Other Material Handling Equipment	93	0.4	8	30	0.7	22	Estimated # workers on site: 35
2	Concrete truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
2	Semi Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	
3	Welders	46	0.45	8	10	0.2	7	
1	Water Truck	82	0.42	8	0	0.0	0	
32								
	Architectural Coating (230kV GIS)	**Start Date:**	**4/1/2033**	**Total phase days:**	**43**			230kV GIS only & associated facility only
		End Date:	**5/31/2033**					
1	Air Compressors	37	0.48	8	5	0.9	5	
1	Aerial Lifts	46	0.31	8	5	0.9	5	
0				8	0	0.0	0	Estimated # workers on site: 5
0				8	0	0.0	0	
2								
	Paving	**Start Date:**	**6/1/2033**	**Total phase days:**	**65**			**Asphalt? ___ deliveries or __ yd3**
		Start Date:	**8/31/2033**					(assumption: 20 yd3/delivery)
1	Cement and Mortar Mixers	10	0.56	8	14	1.7	24	Avg asphalt thickness for commercial/industrial parking lots is 4"
2	Pavers	81	0.42	8	14	1.7	48	
2	Paving Equipment	89	0.36	8	14	1.7	48	
1	Rollers	36	0.38	8	14	1.7	24	Estimated # workers on site: 12
0	Tractors/Loaders/Backhoes	84	0.46	8	0	0.0	0	
0	Plate Compactors	8	0.43	8	0	0.0	0	
6								
See equipment HP and Load Factors in "Equipment Data" worksheet tab.								

Table AQ4-4 Air Quality Construction Support Data

Project Name: Trimble-Charcot 115 kV 2 UG duct banks route option ~1.5 mile (74064653)

See Equipment Data TAB for type, horsepower and load factor | Non-Phased Construction

Main Structure Data

Large Bldgs (cumulative sq.ft)	sq.ft. >>	0	Bldgs >= 5000 sq.ft.		Project Site area (acres)
Small Bldgs (cumulative sq.ft.)	sq.ft. >>	0	Bldgs < 5000 sq.ft.		Acreage affected by construction.
Other Site Structures (cumulative sq.ft.)	sq.ft. >>	0			Employees and Operational Year Data
	sq.ft. >>			no change	Total # of MDC Employees (all shifts);
Assumed disturbance area	sq.ft. >>	225000		2029	Operational Year:
	sq.ft. >>			0	Expected # of Operational Visitors to Site per day:
Parking Lot Area or Parking Structure	sq.ft. >>	0	# parking spaces	0	Expected # of Operational Deliveries to Site per Day (FedEx, DHL, etc.)
Construction Days and Hours (Monday-Saturday)	7:00	am to	5:00	pm	2 Trenches, 15 feet apart, each 7500 ft long, 6 ft. deep, and 4 ft. wide. ROW width assumed at 40 ft. Assume 30 ft of ROW is disturbed.
All construction start dates and phase dates are tentative and are the Applicants best estimates.	Site daily hours based on the time period noted above:	10			

Quantity	Phase Descriptions	HP	Load Factor	Avg Daily Work Hours (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments and Support Data	~Trips/ day
								Overall Import/Export Volumes	
	Demolition (none proposed)	Start Date:		Total phase days:	0	Each		Demolition Volume	
		End Date:				Piece		Square footage of buildings to be demolished	
0				8	0	#DIV/0!	#DIV/0!	(*or* total tons to be hauled)	
0				8	0	#DIV/0!	#DIV/0!	**0** square feet *or* **tons 0**	
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!	Demolition debris haul distance to disposal site (miles): 0	
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0									
	Site Preparation (Marking & Vegetation Management)	Start Date:	1/1/2028	Total phase days:	26				
		End Date:	1/31/2028					Site Prep Support Data or Comments	
1	Heavy-duty Diesel (Dump truck)	376	0.38	8	20	5	100		1
1	Medium-duty Diesel (Boom truck for tree removal)	376	0.38	8	20	5	100		
2	Chainsaws	1.86	0.7	8	3	4	24		
1	Chippers/Stump Grinders/Shredders Preempt	4.85	0.78	8	3	4	12		
1	Light-duty Truck (Utility truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
1	Light-duty Truck (Delivery vehicle)	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
3	Light-duty Truck (Traffic control truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
2	Heavy-duty Truck (4x4 pick up)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
2	Heavy-duty Truck (4x4 flatbed)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
1	Heavy-duty Diesel (Lowboy truck/trailer)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
18	Light-duty Auto/Truck (worker commutes)	Emissions calculated based on # of deliveries and default VMT per phase.					0		15
3									
	Vault Installation	Start Date:	2/1/2028	Total phase days:	103				
		End Date:	5/31/2028						
1	Excavators - Medium	36	0.38	8	98	5	490	Indicate if all or a portion of the cut and fill noted below in the	
1	Tractors/Loaders/Backhoes - Medium	84	0.37	8	98	5	490	Grading/Excavation/Trenching/Foundation phase occurs in this phase. (%)	
1	Excavators - Small	36	0.38	8	98	5	490	Cut Portion = see note	
1	Cranes	367	0.29	8	70	5	350	Fill portion = See note	
2	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0	Export portion = see note	2
2	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0	Import portion = see note	2
1	Heavy-duty Diesel (Dump Truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
2	Heavy-duty Diesel (Concrete Truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0	About 99.99% of the cut/fill and export/import are associated with vault and duct bank phases. A fraction	2
6	Light-duty Auto/Truck (Worker commutes)	Emissions calculated based on # of deliveries and default VMT per phase.					0	of cut and export will occur during the trenchless phase.	15
4									
	Trenching & Duct Banks	Start Date:	6/1/2028	Total phase days:	243				
		End Date:	3/11/2029						
3	Tractors/Loaders/Backhoes	84	0.37	8	234	5	3510	Trenching Soil Hauling Volume (all phases)	
3	Tractors/Loaders/Backhoes	84	0.37	8	234	5	3510	Cut volume = **22,000**	
3	Excavators - Small	36	0.38	8	234	5	3510	Fill volume = **1,100**	

3	Air Compressors	37	0.48	8	234	5	3510	Export volume = **20,900**	
3	Heavy-duty Diesel (Dump Truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0	Import volume = **880**	3
3	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0	20900/20 = 1001 at 4.1 loads/day	4
3	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0	Will Cut = Fill ? N	3
3	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		3
1	Rollers	36	0.38	8	234	5	1170	Offsite cut and fill haul distance: (miles) = CalEEMod defaults	
1	Off-Highway Trucks	376	0.38	8	234	4	936	at 20 yd3 per load	
1	Generator Sets	14	0.74	8	78	3	234		
1	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
1	Welders	46	0.45	8	78	3	234	**Cement Trucks? 0 deliveries or 0 yd**	
1	Heavy-duty Diesel (Boom truck)	82	0.42	8	78	4	312	(assumes 8 yd3 per load)	
1	Heavy-duty Diesel (Concrete truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0	<- See concrete truck use	1
1	Truck Dumping/Loading	Emissions calculated based on # of deliveries and default VMT per phase.					0	assume avg is 1 load/day	1
1	Water truck	82	0.42	8	100	3	300	Cement data is the cumulative total of all phases.	
24	Fugitive dust (Light-duty Auto/Truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0		30
18									
	Trenchless Installation	**Start Date:**	**7/1/2028**	**Total phase days:**	**40**				
		End Date:	**8/16/2028**						
1	Bore/Drill Rigs (Auger Boring Machine)	83	0.5	8	20	6.0	120		
1	Cranes	367	0.29	8	38	4.0	152		
1	Excavator	36	0.38	8	20	6.0	120		
1	Air Compressor (175 cfs)	37	0.48	8	40	5.0	200		
3	Heavy Duty Diesel (Dump Truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0		3
3	Light Duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		3
1	Generator Set Large	14	0.74	8	40	8.0	320		
1	Light Duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
1	Welding Machine	46	0.45	8	20	3.0	60		
1	Concrete/Industrial Saws	33	0.73	8	10	5.0	50		
2	Heavy Duty Diesel (Semi Tractor)	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
2	Heavy-duty Diesel	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
1	Water truck	82	0.42	8	20	3	60		
6	Light-duty Auto/Truck (Worker commutes)	Emissions calculated based on # of deliveries and default VMT per phase.					0		20
1	Material Haul Trucks	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
7									
	Cable Installation, Splicing, & Testing	**Start Date:**	**3/12/2029**	**Total phase days:**	**309**				
		End Date:	**3/7/2030**						
2	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
1	Heavy-duty Diesel (Semi tractor)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
1	Other Construction Equipment (Cable winch)	82	0.42	8	43	5	215		
2	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
1	Other Construction Equipment (Cable reel cart)	82	0.42	8	43	5	215		
1	Generator Sets - Small	14	0.74	8	70	8	560		
1	Heavy-duty Diesel (Vacuum truck)	Emissions calculated based on # of deliveries and default VMT per phase.				8	0		1
32	Light-duty Auto/Truck	Emissions calculated based on # of deliveries and default VMT per phase.					0		30
3									
	Truck Drivers	**Start Date:**	**1/1/2028**	**Total phase days:**	**232**				
		End Date:	**9/27/2028**						
14	Heavy-duty Diesel (Material haul trucks)	Emissions calculated based on # of deliveries and default VMT per phase.					0		14
1	Heavy-duty Diesel (Long haul dump trucks)	Emissions calculated based on # of deliveries and default VMT per phase.					0		1
0									
	Inspectors	**Start Date:**	**1/1/2028**	**Total phase days:**	**569**				
		End Date:	**3/7/2030**						
2	Light duty truck (Inspector vehicles)	Emissions calculated based on # of deliveries and default VMT per phase.					0		2
0									
	Repaving	**Start Date:**	**2/9/2029**	**Total phase days:**	**22**				
		End Date:	**3/11/2029**						
1	Light-duty Truck (Utility truck)	Emissions calculated based on # of deliveries and default VMT per phase.					0	**Asphalt? 0 deliveries or 0 yd3**	1
3	Light-duty Truck (Traffic control trucks)	Emissions calculated based on # of deliveries and default VMT per phase.					0	(assumption: 20 yd3/delivery)	3
1	Light-duty Truck (Delivery vehicles)	Emissions calculated based on # of deliveries and default VMT per phase.					0	Avg asphalt thickness for commercial/industrial parking lots is 4"	1
1	Roller	36	0.38	8	25	5	125		
1	Grader	148	0.41	8	25	5	125		
1	Sweepers/Scrubbers	36	0.46	8	20	5	100		
1	Paving Equipment	89	0.36	8	20	5	100		
28	Light-duty Auto/Truck (Worker commutes)	Emissions calculated based on # of deliveries and default VMT per phase.					0		15
4									

Table AQ4-5 Air Quality Construction Support Data

Project Name: NewTrimble-Charcot_new_OH_two_115kV (~1.5 mi, ~18 TSPs)_7406

See Equipment Data TAB for type, horsepower and load factor

Non-Phased Construction

Main Structure Data

Large Bldgs (cumulative sq.ft)	sq.ft. >>	0	Bldgs >= 5000 sq.ft.		
Small Bldgs (cumulative sq.ft.)	sq.ft. >>	0	Bldgs < 5000 sq.ft.		
Other Site Structures (cumulative sq.ft.)	sq.ft. >>	0			
	sq.ft. >>				
Tower pads	sq.ft. >>	18000			
	sq.ft. >>				
Parking Lot Area or Parking Structure	sq.ft. >>	0	# parking spaces	0	
Construction Days and Hours (Monday-Saturday)	7:00	am to	20:00	pm	
All construction start dates and phase dates are tentative and are the Applicants best estimates.		Site daily hours based on the time period noted above:	10		

	Project Site area (acres)
	Acreage affected by construction.
	Employees and Operational Year Data
no change	Total # of MDC Employees (all shifts);
2029	Operational Year:
0	Expected # of Operational Visitors to Site per day:
0	Expected # of Operational Deliveries to Site per Day (FedEx, DHL, etc.)
	Max route length is 7500 ft, with a max of 18 towers. Each tower site will disturb 1000 ft2

Quantity	Phase Descriptions	HP	Load Factor	Avg Daily Work Hours (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments and Support Data	
								Overall Import/Export Volumes	
	Demolition (none proposed)	**Start Date:**		**Total phase days:**	**0**	Each		**Demolition Volume**	
		End Date:				Piece		Square footage of buildings to be demolished	
0				8	0	#DIV/0!	#DIV/0!	(*or* total tons to be hauled)	
0				8	0	#DIV/0!	#DIV/0!	**0** square feet *or* **tons 0**	
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!	Demolition debris haul distance to disposal site (miles): 0	
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0				8	0	#DIV/0!	#DIV/0!		
0									
	Site Preparation (marking, veg management, and guard structures)	**Start Date:**	1/1/2028	**Total phase days:**	**45**				
		End Date:	2/22/2028					**Site Prep Support Data or Comments**	
3	Other Construction Equipment (Dump Truck for green waste)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		
5	Other Construction Equipment (Boom Truck)	376	0.38	8	30	5.3	800	**Indicate if all or a portion of the cut and fill noted below in the**	
5	Chainsaws	1.86	0.7	8	30	5.3	800	**Grading/Excavation/Trenching/Foundation phase occurs in this phase. (%)**	
5	Chippers/Stump Grinders/Shredders Preempt	4.85	0.78	8	30	5.3	800	Cut Portion = 0	
5	Leaf Blowers/Vacuums	1.79	0.94	8	30	5.3	800	Fill portion = 0	
5	Trimmers/Edgers/Brush Cutters	1.74	0.91	8	30	5.3	800	Export portion =0	
2	Heavy-duty Diesel	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Import portion = 0	2
1	Off-Highway Trucks	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		
1	Forklifts	82	0.2	8	30	5.3	160		
1	Heavy-duty Diesel	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		1
1	Heavy-duty Diesel	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		1
1	Generator Sets	14	0.74	8	45	8.0	360		
2	Signal Boards	6	0.82	8	45	8.0	720		
2	Light-duty Auto/Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		2
39									25
	TSP Installation	**Start Date:**	1/23/2028	**Total phase days:**	**35**				
		End Date:	3/3/2028					**Concrete for 18 poles (max)**	
2	Bore/Drill Rigs (Auger Truck)	83	0.5	8	34	7.8	528	Assume 1 truck load per 2 poles = 9 deliveries	
2	Tractors/Loaders/Backhoes	84	0.37	8	34	7.8	528	Fill dirt from holes-no hauling at 4.2 yd3/hole	
2	Other Construction Equipment (Boom Truck)	376	0.38	8	30	6.9	411	~1 concrete delivery every 4 days	
2	Heavy Duty Diesel (bucket truck) aerial lift	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	New pole concrete ~ 4.2 yd3 each	1
4	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		4
2	Heavy Duty Diesel (Shoo-fly pole and Foundation Material Delivery)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	Will Cut = Fill ? Y/**N** Old pole holes will be backfilled with new hole dirt	1
4	Plate Compactor	8	0.43	8	30	6.9	823		
2	Off-Highway Trucks (120-foot crane truck)	376	0.38	8	30	6.9	411		
2	Heavy-duty Diesel (Transport of 120-crane truck)	Emissions calculated based on # of deliveries and default VMT per phase.				4.0	0	Offsite cut and fill haul distance: (miles) = CalEEMod defaults	0
2	Water Truck	82	0.42	8	34	5.0	340	at 20 yd3 per load	
24									50
	Reconductoring	**Start Date:**	2/22/2028	**Total phase days:**	**26**				
		End Date:	3/23/2028						
2	Other Construction Equipment (Line Puller)	82	0.42	8	26	7.0	364	**Cement Trucks? 0 deliveries or 0 yd**	
2	Other Construction Equipment (Trailer-Mounted Tensioner)	82	0.42	8	26	7.0	364	(assumes 8 yd3 per load)	
4	Off-Highway Trucks (55-foot bucket truck)	376	0.38	8	26	7.0	728		
4	Heavy-duty Diesel (Transport of 55-foot bucket truck)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		
2	Off-Highway Trucks (105-foot bucket truck)	376	0.38	8	26	7.0	364	Cement data is the cumulative total of all phases.	
2	Heavy-duty Diesel (Transport of 105-foot bucket truck)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0		

2	Off-Highway Trucks (120-foot crane truck)	376	0.38	8	26	6.0	312			
2	Heavy-duty Diesel (Transport of 120-crane truck)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
1	Forklifts	82	0.2	8	26	6.0	156			
1	Heavy-duty Diesel (forklift transport)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
2	Generator Sets	14	0.74	8	26	8.0	416		2	total
2	Heavy-duty Diesel (transport generator)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
1	Off-Highway Trucks (tractor trailer, 40-foot flatbed)	376	0.38	8	26	3.0	78		25	
1	Heavy-duty Diesel (transport of flatbed)	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
1	MD500 (light lift helicopter)	Emissions calculated outside of CalEEMod.				0.0	0	~8 days onsite, at max 2 hrs/day = 16 hrs/phase		
8	Light-duty Truck	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0	See helicopter emissions file.		
6	Heavy-duty Diesel	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
1	Water Truck	82	0.42	8	26	3.5	91			
0										
	Restoration (including SWPPP inspections)	**Start Date:**	**3/23/2028**	**Total phase days:**	**138**					
		End Date:	**8/30/2028**							
1	Flat Bed (plants to install) Off-Hwy Trucks	376	0.38	8	20	1.2	23	Plant delivery ~= 1 load/week = 20 loads		
2	Crew Trucks	Emissions calculated based on # of deliveries and default VMT per phase.				0.0	0			
1	Water Truck	82	0.42	8	30	1.7	52			
0				8	0	0.0	0			
4									10	
	Paving (none proposed)	**Start Date:**		**Total phase days:**	**0**			**Asphalt? 0 deliveries or 0 yd3**		
		Start Date:						(assumption: 20 yd3/delivery)		
0				8	0	#DIV/0!	#DIV/0!	Avg asphalt thickness for commercial/industrial parking lots is 4"		
0				8	0	#DIV/0!	#DIV/0!			
0				8	0	#DIV/0!	#DIV/0!			
0				8	0	#DIV/0!	#DIV/0!			
0				8	0	#DIV/0!	#DIV/0!			
0				8	0	#DIV/0!	#DIV/0!			
0										
See equipment HP and Load Factors in "Equipment Data" worksheet tab.										

Helicopter Emissions Estimates for Transmission Line Projects

Ref: EPA Port Emissions Inventory Guidance and ICAO Aircraft Engine Emissions Database
Conklin and deDecker Associates, Helicopter CO2 Emissions, Orleans, MA. 02653
EMEP/EEA and EUROCONTROL Guidebooks.

Reference helicopters used on T-Line projects:

ID/Name	Lift Rating	Work days	Hrs/day	Period Total Hrs	LTO/hr	Fuel type	Engine Type	# of Engines	Engine/HP	Engine	Max Payload	Fuel Use gal/hr**
Bell 500 (MD500)	Light	8	2	16	1	AV kerosene	Turbine	1	420	Allison 250-C20B	2000	62
N/A	Heavy	0	0	0	0	AV kerosene	Turbine	0	0	0	0	0

Fugitive Dust Emissions from LTO Cycles

Ref: Huey TPG UH-IH Medium Lift Unit, blade diameter 48 ft., PM fugitive rate at 2 kg/LTO (4.4092 lbs/LTO)

ID/Name	Lift Rating	LTO/Hr	Blade Diam, ft	lbs PM/LTO	# LTOs	Period Emissions PM, tons	PM10, tons	PM2.5, tons
Bell 500	Light	1	26.4	2.43	16	0.02	0.01	0.00
N/A	Heavy	0	0	0.00	0	0.00	0.00	0.00

Default Emissions Factors*

	g/Kg Fuel	lbs/Gal	Light Lift lbs/hr	Heavy Lift lbs/hr	Light Lift Tons/Period	Heavy Lift Tons/Period
Nox	9.00	0.0571	3.54	0.00	0.0283	0.0000
CO	27.50	0.1744	10.81	0.00	0.0865	0.0000
VOC	6.75	0.0428	2.65	0.00	0.0212	0.0000
SO2	1.00	0.0063	0.39	0.00	0.0031	0.0000
PM10	0.35	0.0022	0.14	0.00	0.0011	0.0000
CO2	3157.50	20.0265	1241.64	0.00	9.9331	0.0000

*mid-range values.

AV kerosene: avg 6.5 lbs/gal or 0.76 Kg/L

** fuel use values are the max values per hour to produce conservative emissions values.

Project Construction Emissions

CalEEMod Ver. 2022.1.1.41

Note Applicable to the following output tables:

Although this output is identified as “UNMITIGATED”, the results are actually “MITIGATED” per the following:

- All onsite construction equipment was evaluated at Tier 4 Final emissions factors.
- Onsite fugitive dust emissions were controlled through watering twice daily and onsite speed control (<= 15 mph) which results in a reduction of greater than or equal to 61%.
- Low VOC coatings were specified for all building interior and exterior coatings, as well as parking lot coatings.
- Offsite vehicle use (worker travel, road hauling, etc.) was assumed to be in compliance with the California emissions standards pursuant to the statewide Inspection and Maintenance Program.
- The construction phase will be serviced only by offsite paved roads.
- The air District BMP’s will be implemented as noted in the Air Quality section text.

Charcot DC Single Shift Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Charcot DC Single Shift
Construction Start Date	9/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00000
Precipitation (days)	31.0000
Location	37.380794443850505, -121.91463564739459
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1883
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	516.000	1000sqft	12.9000	516,000	142,003	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	75.6653	75.4991	17.5736	68.1107	0.09348	0.20082	3.68739	3.75972	0.19694	0.72756	0.91040	12,160.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.37375	1.24277	13.1465	42.9829	0.06015	0.12897	5.17380	5.26760	0.12841	1.25424	1.34804	7,533.25
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.4461	16.3830	8.33088	29.7435	0.04131	0.08843	1.71123	1.79966	0.08656	0.39967	0.48623	5,424.27
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Unmit.	3.00142	2.98989	1.52039	5.42818	0.00754	0.01614	0.31230	0.32844	0.01580	0.07294	0.08874	898.050

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.63360	0.29210	6.94342	9.44051	0.03829	0.07233	3.68739	3.75972	0.07233	0.72756	0.79989	5,775.65
2028	2.15086	1.98711	17.5736	68.1107	0.09348	0.20082	3.36546	3.56628	0.19694	0.71346	0.91040	12,160.4
2029	75.6653	75.4991	15.8736	47.3986	0.06207	0.12828	2.96008	3.08836	0.12496	0.69882	0.82378	8,836.05
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.92770	0.56653	7.97405	18.3798	0.04880	0.09380	5.17380	5.26760	0.09380	1.25424	1.34804	7,392.63
2028	1.37375	1.24277	13.1465	42.9829	0.06015	0.12897	5.17380	5.26760	0.12841	1.25424	1.34804	7,533.25
2029	1.34479	1.20836	13.0578	32.1746	0.04384	0.09332	2.17256	2.26587	0.09000	0.51350	0.60350	6,050.36
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.22236	0.12191	2.14881	3.95263	0.01248	0.02380	1.26101	1.28481	0.02380	0.28181	0.30560	1,884.75
2028	0.99777	0.91619	8.33088	29.7435	0.04131	0.08843	1.71123	1.79966	0.08656	0.39967	0.48623	5,424.27
2029	16.4461	16.3830	6.13949	16.5409	0.02253	0.04714	1.07020	1.11733	0.04573	0.25248	0.29821	3,139.47

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.04058	0.02225	0.39216	0.72136	0.00228	0.00434	0.23013	0.23448	0.00434	0.05143	0.05577	312.042
2028	0.18209	0.16720	1.52039	5.42818	0.00754	0.01614	0.31230	0.32844	0.01580	0.07294	0.08874	898.050
2029	3.00142	2.98989	1.12046	3.01871	0.00411	0.00860	0.19531	0.20391	0.00834	0.04608	0.05442	519.776

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09775	0.09775	1.55206	5.52853	0.00866	0.01589	2.21151	2.22740	0.01589	0.33489	0.35078	867.890
2028	1.16719	1.13675	16.4673	57.2792	0.09031	0.19466	0.63620	0.83086	0.19208	0.06870	0.26078	9,119.49
2029	74.6468	74.6214	14.7482	36.2804	0.05892	0.12216	0.00000	0.12216	0.12014	0.00000	0.12014	5,630.21
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.20511	0.20511	2.11033	12.6543	0.01917	0.03736	3.16059	3.19796	0.03736	0.73562	0.77298	2,009.86
2028	0.65955	0.65451	12.0608	39.2243	0.05967	0.12805	3.16059	3.19796	0.12749	0.73562	0.77298	6,469.74
2029	0.61500	0.58959	12.0608	25.1807	0.04115	0.08808	0.00000	0.08808	0.08606	0.00000	0.08606	3,791.73
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.04338	0.04338	0.52463	2.60467	0.00399	0.00763	0.76955	0.77717	0.00763	0.15335	0.16098	412.233
2028	0.52134	0.50678	7.71414	25.1205	0.03972	0.08534	0.36774	0.45308	0.08412	0.08266	0.16678	3,968.72
2029	16.0819	16.0711	5.70072	13.0750	0.02129	0.04472	0.00000	0.04472	0.04386	0.00000	0.04386	2,004.55

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00792	0.00792	0.09575	0.47535	0.00073	0.00139	0.14044	0.14183	0.00139	0.02799	0.02938	68.2499
2028	0.09515	0.09249	1.40783	4.58449	0.00725	0.01557	0.06711	0.08269	0.01535	0.01509	0.03044	657.068
2029	2.93495	2.93298	1.04038	2.38619	0.00389	0.00816	0.00000	0.00816	0.00800	0.00000	0.00800	331.876

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.53586	0.19435	5.39136	3.91198	0.02963	0.05644	1.47589	1.53232	0.05644	0.39268	0.44912	4,907.76
2028	0.98367	0.85036	1.10628	10.8315	0.00317	0.00616	2.72926	2.73542	0.00486	0.64475	0.64962	3,040.86
2029	1.01848	0.87771	1.12540	11.1182	0.00315	0.00612	2.96008	2.96620	0.00482	0.69882	0.70365	3,205.84
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72259	0.36143	5.86372	5.72545	0.02963	0.05644	2.01321	2.06965	0.05644	0.51862	0.57506	5,382.78
2028	0.75875	0.65318	5.65270	7.37887	0.02963	0.05644	2.17256	2.17779	0.05644	0.51862	0.57506	5,255.26
2029	0.72979	0.61877	0.99697	6.99394	0.00269	0.00524	2.17256	2.17779	0.00394	0.51350	0.51744	2,258.63
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.17898	0.07852	1.62418	1.34796	0.00849	0.01617	0.49147	0.50764	0.01617	0.12846	0.14463	1,472.52
2028	0.47642	0.40941	0.61675	4.62297	0.00159	0.00309	1.34349	1.34658	0.00244	0.31701	0.31945	1,455.55
2029	0.36425	0.31187	0.43877	3.46586	0.00124	0.00241	1.07020	1.07261	0.00186	0.25248	0.25435	1,134.92

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.03266	0.01433	0.29641	0.24600	0.00155	0.00295	0.08969	0.09264	0.00295	0.02344	0.02639	243.793
2028	0.08695	0.07472	0.11256	0.84369	0.00029	0.00056	0.24519	0.24575	0.00045	0.05785	0.05830	240.982
2029	0.06648	0.05692	0.08008	0.63252	0.00023	0.00044	0.19531	0.19575	0.00034	0.04608	0.04642	187.899

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09775	0.09775	1.55206	5.52853	0.00866	0.01589	—	0.01589	0.01589	—	0.01589	867.890
Demolition	—	—	—	—	—	—	2.21151	2.21151	—	0.33489	0.33489	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09775	0.09775	1.55206	5.52853	0.00866	0.01589	—	0.01589	0.01589	—	0.01589	867.890
Demolition	—	—	—	—	—	—	2.21151	2.21151	—	0.33489	0.33489	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02800	0.02800	0.44466	1.58391	0.00248	0.00455	—	0.00455	0.00455	—	0.00455	248.648
Demolition	—	—	—	—	—	—	0.63359	0.63359	—	0.09594	0.09594	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00511	0.00511	0.08115	0.28906	0.00045	0.00083	—	0.00083	0.00083	—	0.00083	41.1665
Demolition	—	—	—	—	—	—	0.11563	0.11563	—	0.01751	0.01751	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10834	0.09699	0.07346	1.24809	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	293.371
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.42752	0.09736	5.31790	2.66389	0.02963	0.05644	1.18656	1.24300	0.05644	0.32486	0.38130	4,614.38
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10525	0.09391	0.08634	1.06414	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	271.218

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.42188	0.09312	5.61703	2.68505	0.02963	0.05644	1.18656	1.24300	0.05644	0.32486	0.38130	4,607.87
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02971	0.02646	0.02430	0.30195	0.00000	0.00000	0.08124	0.08124	0.00000	0.01902	0.01902	78.6520
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.12167	0.02749	1.57733	0.76562	0.00849	0.01617	0.33479	0.35096	0.01617	0.09178	0.10795	1,320.83
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00542	0.00483	0.00443	0.05511	0.00000	0.00000	0.01483	0.01483	0.00000	0.00347	0.00347	13.0217
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.02221	0.00502	0.28786	0.13973	0.00155	0.00295	0.06110	0.06405	0.00295	0.01675	0.01970	218.679

3.2. Demolition (2028)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09775	0.09775	1.55206	5.52853	0.00866	0.01589	—	0.01589	0.01589	—	0.01589	868.016

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Demolition	—	—	—	—	—	—	2.21151	2.21151	—	0.33489	0.33489	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00023	0.00023	0.00364	0.01298	0.00002	0.00004	—	0.00004	0.00004	—	0.00004	2.03839
Demolition	—	—	—	—	—	—	0.00519	0.00519	—	0.00079	0.00079	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00004	0.00004	0.00067	0.00237	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	0.33748
Demolition	—	—	—	—	—	—	0.00095	0.00095	—	0.00014	0.00014	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10139	0.09005	0.08557	1.00048	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	266.569
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.42047	0.09171	5.40820	2.60181	0.02963	0.05644	1.18656	1.24300	0.05644	0.32486	0.38130	4,493.64

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00024	0.00021	0.00018	0.00233	0.00000	0.00000	0.00067	0.00067	0.00000	0.00016	0.00016	0.63354
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00099	0.00022	0.01250	0.00608	0.00007	0.00013	0.00274	0.00288	0.00013	0.00075	0.00088	10.5575
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00004	0.00004	0.00003	0.00043	0.00000	0.00000	0.00012	0.00012	0.00000	0.00003	0.00003	0.10489
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00018	0.00004	0.00228	0.00111	0.00001	0.00002	0.00050	0.00052	0.00002	0.00014	0.00016	1.74792

3.3. Site Preparation (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10736	0.10736	0.55827	7.12582	0.01051	0.02147	—	0.02147	0.02147	—	0.02147	1,141.97
Dust From Material Movement	—	—	—	—	—	—	0.94909	0.94909	—	0.40073	0.40073	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01538	0.01538	0.07997	1.02076	0.00151	0.00308	—	0.00308	0.00308	—	0.00308	163.585
Dust From Material Movement	—	—	—	—	—	—	0.13596	0.13596	—	0.05740	0.05740	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00281	0.00281	0.01459	0.18629	0.00027	0.00056	—	0.00056	0.00056	—	0.00056	27.0834
Dust From Material Movement	—	—	—	—	—	—	0.02481	0.02481	—	0.01048	0.01048	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19546	0.17440	0.16035	1.97626	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	503.691
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02759	0.02457	0.02256	0.28039	0.00000	0.00000	0.07544	0.07544	0.00000	0.01766	0.01766	73.0340
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00504	0.00448	0.00412	0.05117	0.00000	0.00000	0.01377	0.01377	0.00000	0.00322	0.00322	12.0916
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Site Preparation (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10736	0.10736	0.55827	7.12582	0.01051	0.02147	—	0.02147	0.02147	—	0.02147	1,142.08

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.94909	0.94909	—	0.40073	0.40073	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01538	0.01538	0.07997	1.02076	0.00151	0.00308	—	0.00308	0.00308	—	0.00308	163.601
Dust From Material Movement	—	—	—	—	—	—	0.13596	0.13596	—	0.05740	0.05740	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00281	0.00281	0.01459	0.18629	0.00027	0.00056	—	0.00056	0.00056	—	0.00056	27.0860
Dust From Material Movement	—	—	—	—	—	—	0.02481	0.02481	—	0.01048	0.01048	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.18830	0.16723	0.15892	1.85803	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	495.057
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02677	0.02375	0.01995	0.26407	0.00000	0.00000	0.07544	0.07544	0.00000	0.01766	0.01766	71.7712
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00489	0.00433	0.00364	0.04819	0.00000	0.00000	0.01377	0.01377	0.00000	0.00322	0.00322	11.8825
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Grading (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55219	0.54715	4.40650	32.0985	0.04916	0.10658	—	0.10658	0.10602	—	0.10602	5,327.66

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.63620	0.63620	—	0.06870	0.06870	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55219	0.54715	4.40650	32.0985	0.04916	0.10658	—	0.10658	0.10602	—	0.10602	5,327.66
Dust From Material Movement	—	—	—	—	—	—	0.63620	0.63620	—	0.06870	0.06870	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19667	0.19488	1.56944	11.4324	0.01751	0.03796	—	0.03796	0.03776	—	0.03776	1,897.52
Dust From Material Movement	—	—	—	—	—	—	0.22659	0.22659	—	0.02447	0.02447	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03589	0.03556	0.28642	2.08640	0.00320	0.00693	—	0.00693	0.00689	—	0.00689	314.157
Dust From Material Movement	—	—	—	—	—	—	0.04135	0.04135	—	0.00447	0.00447	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19403	0.17296	0.11822	2.17903	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	530.292
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00696	0.00159	0.08390	0.04216	0.00048	0.00092	0.01938	0.02030	0.00092	0.00531	0.00623	73.4989
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18830	0.16723	0.15892	1.85803	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	495.057
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00687	0.00150	0.08834	0.04250	0.00048	0.00092	0.01938	0.02030	0.00092	0.00531	0.00623	73.4046
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06655	0.05905	0.04961	0.65656	0.00000	0.00000	0.18756	0.18756	0.00000	0.04391	0.04391	178.448
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00246	0.00055	0.03098	0.01506	0.00017	0.00033	0.00680	0.00713	0.00033	0.00186	0.00219	26.1563
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01215	0.01078	0.00905	0.11982	0.00000	0.00000	0.03423	0.03423	0.00000	0.00801	0.00801	29.5440
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00045	0.00010	0.00565	0.00275	0.00003	0.00006	0.00124	0.00130	0.00006	0.00034	0.00040	4.33048

3.6. Building Construction (2028)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61500	0.58959	12.0608	25.1807	0.04115	0.08808	—	0.08808	0.08606	—	0.08606	3,791.83
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61500	0.58959	12.0608	25.1807	0.04115	0.08808	—	0.08808	0.08606	—	0.08606	3,791.83
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30907	0.29630	6.06108	12.6544	0.02068	0.04426	—	0.04426	0.04325	—	0.04325	1,905.56
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05640	0.05407	1.10615	2.30943	0.00377	0.00808	—	0.00808	0.00789	—	0.00789	315.488
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74662	0.66556	0.45492	8.38490	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	2,040.57
Vendor	0.01608	0.00568	0.20849	0.10442	0.00130	0.00259	0.04932	0.05191	0.00130	0.01363	0.01492	185.596
Hauling	0.01997	0.00456	0.24074	0.12097	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	210.910
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72457	0.64351	0.61153	7.14971	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	1,904.98
Vendor	0.01448	0.00537	0.22065	0.10719	0.00130	0.00259	0.04932	0.05191	0.00130	0.01363	0.01492	185.426
Hauling	0.01971	0.00430	0.25351	0.12196	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	210.639
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36136	0.32062	0.26935	3.56478	0.00000	0.00000	1.01838	1.01838	0.00000	0.23838	0.23838	968.878
Vendor	0.00808	0.00278	0.10873	0.05309	0.00065	0.00130	0.02437	0.02567	0.00065	0.00674	0.00740	93.1964
Hauling	0.00997	0.00223	0.12544	0.06099	0.00070	0.00133	0.02753	0.02886	0.00133	0.00755	0.00888	105.905
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06595	0.05851	0.04916	0.65057	0.00000	0.00000	0.18585	0.18585	0.00000	0.04351	0.04351	160.409
Vendor	0.00147	0.00051	0.01984	0.00969	0.00012	0.00024	0.00445	0.00469	0.00012	0.00123	0.00135	15.4297
Hauling	0.00182	0.00041	0.02289	0.01113	0.00013	0.00024	0.00502	0.00527	0.00024	0.00138	0.00162	17.5338

3.7. Building Construction (2029)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61500	0.58959	12.0608	25.1807	0.04115	0.08808	—	0.08808	0.08606	—	0.08606	3,791.73
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61500	0.58959	12.0608	25.1807	0.04115	0.08808	—	0.08808	0.08606	—	0.08606	3,791.73
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26141	0.25061	5.12643	10.7030	0.01749	0.03744	—	0.03744	0.03658	—	0.03658	1,611.67
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04771	0.04574	0.93557	1.95330	0.00319	0.00683	—	0.00683	0.00668	—	0.00668	266.831
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.71354	0.63248	0.44941	7.91509	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	2,005.98
Vendor	0.01478	0.00568	0.19932	0.10151	0.00130	0.00259	0.04932	0.05191	0.00130	0.01363	0.01492	180.595
Hauling	0.01858	0.00324	0.23215	0.11839	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.905
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.69700	0.61042	0.54149	6.77034	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	1,873.54
Vendor	0.01448	0.00537	0.21050	0.10429	0.00130	0.00259	0.04932	0.05191	0.00130	0.01363	0.01492	180.423
Hauling	0.01832	0.00298	0.24498	0.11931	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.668
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29391	0.25946	0.19571	2.83343	0.00000	0.00000	0.86134	0.86134	0.00000	0.20162	0.20162	805.905
Vendor	0.00622	0.00235	0.08752	0.04367	0.00055	0.00110	0.02061	0.02171	0.00055	0.00570	0.00626	76.7101
Hauling	0.00784	0.00132	0.10188	0.05049	0.00059	0.00112	0.02328	0.02441	0.00112	0.00638	0.00751	87.0294
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05364	0.04735	0.03572	0.51710	0.00000	0.00000	0.15719	0.15719	0.00000	0.03680	0.03680	133.427
Vendor	0.00113	0.00043	0.01597	0.00797	0.00010	0.00020	0.00376	0.00396	0.00010	0.00104	0.00114	12.7002
Hauling	0.00143	0.00024	0.01859	0.00921	0.00011	0.00021	0.00425	0.00445	0.00021	0.00116	0.00137	14.4087

3.8. Paving (2029)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15378	0.15378	1.29518	9.02404	0.01425	0.02902	—	0.02902	0.02902	—	0.02902	1,547.78
Paving	0.06718	0.06718	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03286	0.03286	0.27678	1.92843	0.00305	0.00620	—	0.00620	0.00620	—	0.00620	330.759
Paving	0.01436	0.01436	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00600	0.00600	0.05051	0.35194	0.00056	0.00113	—	0.00113	0.00113	—	0.00113	54.7610
Paving	0.00262	0.00262	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17117	0.15172	0.10781	1.89871	0.00000	0.00000	0.49599	0.49599	0.00000	0.11626	0.11626	481.204
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00619	0.00108	0.07738	0.03946	0.00046	0.00088	0.01854	0.01942	0.00088	0.00508	0.00596	68.3018
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03545	0.03129	0.02360	0.34173	0.00000	0.00000	0.10388	0.10388	0.00000	0.02432	0.02432	97.1962
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00131	0.00022	0.01707	0.00846	0.00010	0.00019	0.00390	0.00409	0.00019	0.00107	0.00126	14.5850
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00647	0.00571	0.00431	0.06236	0.00000	0.00000	0.01896	0.01896	0.00000	0.00444	0.00444	16.0919
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00024	0.00004	0.00312	0.00154	0.00002	0.00003	0.00071	0.00075	0.00003	0.00020	0.00023	2.41472

3.9. Architectural Coating (2029)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04556	0.04556	1.39222	2.07567	0.00351	0.00506	—	0.00506	0.00506	—	0.00506	290.694
Architectural Coatings	73.7653	73.7653	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00974	0.00974	0.29751	0.44357	0.00075	0.00108	—	0.00108	0.00108	—	0.00108	62.1208
Architectural Coatings	15.7635	15.7635	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00178	0.00178	0.05430	0.08095	0.00014	0.00020	—	0.00020	0.00020	—	0.00020	10.2848
Architectural Coatings	2.87685	2.87685	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09421	0.08351	0.05934	1.04505	0.00000	0.00000	0.27299	0.27299	0.00000	0.06399	0.06399	264.855
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01951	0.01722	0.01299	0.18809	0.00000	0.00000	0.05718	0.05718	0.00000	0.01338	0.01338	53.4968
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00356	0.00314	0.00237	0.03433	0.00000	0.00000	0.01043	0.01043	0.00000	0.00244	0.00244	8.85701
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2027	1/1/2028	6.00000	106.000	—
Site Preparation	Site Preparation	11/1/2027	3/1/2028	6.00000	105.000	—
Grading	Grading	2/1/2028	7/1/2028	6.00000	130.000	—
Building Construction	Building Construction	6/1/2028	6/30/2029	6.00000	338.000	—
Paving	Paving	4/2/2029	6/30/2029	6.00000	78.0000	—
Architectural Coating	Architectural Coating	4/2/2029	6/30/2029	6.00000	78.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	1.50000	367.000	0.40000
Demolition	Excavators	Diesel	Tier 4 Final	2.00000	2.30000	36.0000	0.38000
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	6.00000	1.000000	33.0000	0.73000
Demolition	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	2.00000	1.50000	84.0000	0.37000
Demolition	Rubber Tired Loaders	Diesel	Tier 4 Final	2.00000	1.50000	150.000	0.36000
Demolition	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	1.10000	82.0000	0.42000
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	2.30000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	3.00000	2.30000	84.0000	0.37000
Site Preparation	Graders	Diesel	Tier 4 Final	2.00000	1.80000	148.000	0.41000
Site Preparation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	2.30000	150.000	0.36000
Site Preparation	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	2.30000	82.0000	0.42000
Grading	Graders	Diesel	Tier 4 Final	2.00000	4.00000	148.000	0.41000
Grading	Excavators	Diesel	Tier 4 Final	4.00000	4.00000	36.0000	0.38000
Grading	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	8.00000	4.00000	84.0000	0.37000
Grading	Scrapers	Diesel	Tier 4 Final	1.000000	2.50000	423.000	0.48000
Grading	Cranes	Diesel	Tier 4 Final	2.00000	7.40000	367.000	0.29000
Grading	Rollers	Diesel	Tier 4 Final	1.000000	1.000000	36.0000	0.38000
Grading	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	3.70000	150.000	0.36000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Sweepers/Scrubbers	Diesel	Tier 4 Final	1.000000	4.00000	36.0000	0.46000
Grading	Bore/Drill Rigs	Diesel	Tier 4 Final	2.00000	3.70000	83.0000	0.50000
Grading	Pumps	Diesel	Tier 4 Final	2.00000	1.20000	11.0000	0.74000
Grading	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	4.00000	82.0000	0.42000
Building Construction	Forklifts	Diesel	Tier 4 Final	6.00000	5.30000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Tier 4 Final	3.00000	5.00000	14.0000	0.74000
Building Construction	Cranes	Diesel	Tier 4 Final	2.00000	2.80000	367.000	0.29000
Building Construction	Welders	Diesel	Tier 4 Final	24.0000	2.40000	46.0000	0.45000
Building Construction	Excavators	Diesel	Tier 4 Final	1.000000	4.00000	36.0000	0.38000
Building Construction	Pumps	Diesel	Tier 4 Final	2.00000	1.40000	11.0000	0.74000
Building Construction	Aerial Lifts	Diesel	Tier 4 Final	8.00000	3.60000	46.0000	0.31000
Building Construction	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	4.00000	82.0000	0.42000
Paving	Pavers	Diesel	Tier 4 Final	2.00000	3.60000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00000	3.60000	89.0000	0.36000
Paving	Rollers	Diesel	Tier 4 Final	2.00000	3.60000	36.0000	0.38000
Paving	Surfacing Equipment	Diesel	Tier 4 Final	2.00000	3.10000	399.000	0.30000
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	3.00000	3.40000	37.0000	0.48000
Architectural Coating	Aerial Lifts	Diesel	Tier 4 Final	1.000000	3.40000	46.0000	0.31000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	35.0000	11.7000	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40000	HHDT,MHDT
Demolition	Hauling	64.0000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	65.0000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	65.0000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT
Grading	Hauling	1.04545	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	250.120	11.7000	LDA,LDT1,LDT2
Building Construction	Vendor	7.00000	8.40000	HHDT,MHDT
Building Construction	Hauling	3.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	60.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	—	8.40000	HHDT,MHDT
Paving	Hauling	1.000000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Architectural Coating	Worker	33.0240	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	774,000	258,000	80,000.0

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	362,895	0.00000
Site Preparation	0.00000	0.00000	34.7625	0.00000	0.00000
Grading	1,100.00	0.00000	99.9500	0.00000	0.00000

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Paving	0.00000	0.00000	0.00000	0.00000	2.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	General Office Building	2.00000	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400
2029	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4500	annual days of extreme heat
Extreme Precipitation	2.60000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk

reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6478
AQ-PM	24.6049
AQ-DPM	83.8830
Drinking Water	40.5021
Lead Risk Housing	1.87776
Pesticides	0.00000
Toxic Releases	39.4974
Traffic	90.1250
Effect Indicators	—
CleanUp Sites	99.7200
Groundwater	94.1557
Haz Waste Facilities/Generators	96.9821
Impaired Water Bodies	43.7841
Solid Waste	80.0916
Sensitive Population	—
Asthma	11.6152
Cardio-vascular	29.6486
Low Birth Weights	84.8473
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	2.30321
Housing	15.8555
Linguistic	60.6171
Poverty	3.32915
Unemployment	19.5862

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	94.63621199
Employed	86.15424099
Median HI	96.26587964
Education	—
Bachelor's or higher	99.98716797
High school enrollment	100
Preschool enrollment	59.2839728
Transportation	—
Auto Access	77.83908636
Active commuting	49.44180675
Social	—

Indicator	Result for Project Census Tract
2-parent households	91.67201335
Voting	67.88143205
Neighborhood	—
Alcohol availability	92.35211087
Park access	57.03836777
Retail density	90.81226742
Supermarket access	12.97318106
Tree canopy	80.11035545
Housing	—
Homeownership	13.40947004
Housing habitability	54.69010651
Low-inc homeowner severe housing cost burden	38.62440652
Low-inc renter severe housing cost burden	87.73258052
Uncrowded housing	51.23829077
Health Outcomes	—
Insured adults	99.67919928
Arthritis	0.0
Asthma ER Admissions	82.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Indicator	Result for Project Census Tract
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	21.0
Cognitively Disabled	94.6
Physically Disabled	99.3
Heart Attack ER Admissions	68.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	14.8

Indicator	Result for Project Census Tract
Elderly	97.8
English Speaking	33.7
Foreign-born	99.3
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	19.0
Traffic Density	85.9
Traffic Access	50.1
Other Indices	—
Hardship	1.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0000
Healthy Places Index Score for Project Location (b)	96.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Applicant data and design drawings data.
Construction: Construction Phases	Applicant supplied phase dates.
Construction: Off-Road Equipment	Equipment specified by Applicant.
Construction: Off-Road Equipment EF	Manual input of EFs per CalEEMod for Pumps and Gen Sets.
Construction: Dust From Material Movement	Applicant best estimate.
Construction: Trips and VMT	Applicant best estimate.
Construction: Paving	Applicant best estimate.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	11.8457	12.9000
Landscape Area	sq. ft	—	142,003

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	9/29/2027	1/1/2028
Demolition	Demolition	Days/Week	5.00000	6.00000
Demolition	Demolition	Work Days per Phase	20.0000	106.000
Site Preparation	Site Preparation	Start Date	9/30/2027	11/1/2027
Site Preparation	Site Preparation	End Date	10/14/2027	3/1/2028
Site Preparation	Site Preparation	Days/Week	5.00000	6.00000
Site Preparation	Site Preparation	Work Days per Phase	10.00000	105.000
Grading	Grading	Start Date	10/15/2027	2/1/2028
Grading	Grading	End Date	11/26/2027	7/1/2028
Grading	Grading	Days/Week	5.00000	6.00000
Grading	Grading	Work Days per Phase	30.0000	130.000
Building Construction	Building Construction	Start Date	11/27/2027	6/1/2028
Building Construction	Building Construction	End Date	1/20/2029	6/30/2029

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Building Construction	Building Construction	Days/Week	5.00000	6.00000
Building Construction	Building Construction	Work Days per Phase	300.000	338.000
Paving	Paving	Start Date	1/21/2029	4/2/2029
Paving	Paving	End Date	2/18/2029	6/30/2029
Paving	Paving	Days/Week	5.00000	6.00000
Paving	Paving	Work Days per Phase	20.0000	78.0000
Architectural Coating	Architectural Coating	Start Date	2/19/2029	4/2/2029
Architectural Coating	Architectural Coating	End Date	3/19/2029	6/30/2029
Architectural Coating	Architectural Coating	Days/Week	5.00000	6.00000
Architectural Coating	Architectural Coating	Work Days per Phase	20.0000	78.0000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Demolition	Rubber Tired Dozers	Engine Tier	Average	Tier 4 Final
Demolition	Rubber Tired Dozers	Number per Day	2.00000	1.000000
Demolition	Rubber Tired Dozers	Hours Per Day	8.00000	1.50000
Demolition	Excavators	Engine Tier	Average	Tier 4 Final
Demolition	Excavators	Number per Day	3.00000	2.00000
Demolition	Excavators	Hours Per Day	8.00000	2.30000
Demolition	Concrete/Industrial Saws	Engine Tier	Average	Tier 4 Final
Demolition	Concrete/Industrial Saws	Number per Day	1.000000	6.00000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Demolition	Concrete/Industrial Saws	Hours Per Day	8.00000	1.000000
Site Preparation	Rubber Tired Dozers	Engine Tier	Average	Tier 4 Final
Site Preparation	Rubber Tired Dozers	Number per Day	3.00000	1.000000
Site Preparation	Rubber Tired Dozers	Hours Per Day	8.00000	2.30000
Site Preparation	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Site Preparation	Tractors/Loaders/Backhoes	Number per Day	4.00000	3.00000
Site Preparation	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	2.30000
Site Preparation	Graders	Hours Per Day	1.70000	1.80000
Grading	Graders	Engine Tier	Average	Tier 4 Final
Grading	Graders	Number per Day	1.000000	2.00000
Grading	Graders	Hours Per Day	8.00000	4.00000
Grading	Excavators	Engine Tier	Average	Tier 4 Final
Grading	Excavators	Number per Day	2.00000	4.00000
Grading	Excavators	Hours Per Day	8.00000	4.00000
Grading	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Grading	Tractors/Loaders/Backhoes	Number per Day	2.00000	8.00000
Grading	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	4.00000
Grading	Scrapers	Engine Tier	Average	Tier 4 Final
Grading	Scrapers	Number per Day	2.00000	1.000000
Grading	Scrapers	Hours Per Day	8.00000	2.50000
Grading	Cranes	Hours Per Day	7.30000	7.40000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Grading	Rubber Tired Loaders	Hours Per Day	3.60000	3.70000
Grading	Sweepers/Scrubbers	Hours Per Day	3.90000	4.00000
Grading	Bore/Drill Rigs	Hours Per Day	3.60000	3.70000
Grading	Other Construction Equipment	Hours Per Day	3.90000	4.00000
Building Construction	Forklifts	Engine Tier	Average	Tier 4 Final
Building Construction	Forklifts	Number per Day	3.00000	6.00000
Building Construction	Forklifts	Hours Per Day	8.00000	5.30000
Building Construction	Generator Sets	Engine Tier	Average	Tier 4 Final
Building Construction	Generator Sets	Number per Day	1.000000	3.00000
Building Construction	Generator Sets	Hours Per Day	8.00000	5.00000
Building Construction	Cranes	Engine Tier	Average	Tier 4 Final
Building Construction	Cranes	Number per Day	1.000000	2.00000
Building Construction	Cranes	Hours Per Day	7.00000	2.80000
Building Construction	Welders	Engine Tier	Average	Tier 4 Final
Building Construction	Welders	Number per Day	1.000000	24.0000
Building Construction	Welders	Hours Per Day	8.00000	2.40000
Building Construction	Pumps	Hours Per Day	1.10000	1.40000
Building Construction	Aerial Lifts	Hours Per Day	2.90000	3.60000
Building Construction	Other Construction Equipment	Hours Per Day	3.30000	4.00000
Paving	Pavers	Engine Tier	Average	Tier 4 Final
Paving	Pavers	Hours Per Day	8.00000	3.60000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Paving	Paving Equipment	Engine Tier	Average	Tier 4 Final
Paving	Paving Equipment	Hours Per Day	8.00000	3.60000
Paving	Rollers	Engine Tier	Average	Tier 4 Final
Paving	Rollers	Hours Per Day	8.00000	3.60000
Architectural Coating	Air Compressors	Engine Tier	Average	Tier 4 Final
Architectural Coating	Air Compressors	Number per Day	1.000000	3.00000
Architectural Coating	Air Compressors	Hours Per Day	6.00000	3.40000
Architectural Coating	Aerial Lifts	Hours Per Day	5.00000	3.40000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation	Material Imported	Cubic Yards	—	0.00000
Site Preparation	Material Exported	Cubic Yards	—	0.00000
Site Preparation	Total Acres Graded	acres	38.7188	34.7625
Grading	Material Imported	Cubic Yards	—	1,100.00
Grading	Material Exported	Cubic Yards	—	0.00000
Grading	Total Acres Graded	acres	105.625	99.9500

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Demolition	Hauling	One-Way Trips per Day	39.3774	64.0000

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Site Preparation	Worker	One-Way Trips per Day	20.0000	65.0000
Grading	Worker	One-Way Trips per Day	62.5000	65.0000
Grading	Hauling	One-Way Trips per Day	1.06154	1.04545
Building Construction	Worker	One-Way Trips per Day	165.120	250.120
Building Construction	Vendor	One-Way Trips per Day	84.5724	7.00000
Building Construction	Hauling	One-Way Trips per Day	0.00000	3.00000
Paving	Worker	One-Way Trips per Day	20.0000	60.0000
Paving	Hauling	One-Way Trips per Day	0.00000	1.000000

8.4.9. Paving

Phase Name	Land Use	Model Parameter	Units	Default Value	New Value
Paving	General Office Building	Area Paved	acres	0.00000	2.00000
Paving	General Office Building	% Asphalt	%	0.00000	100.0000

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3.4.1. Onsite - Unmitigated
3.4.2. Offsite - Unmitigated
3.5. Building Construction (2028)
3.5.1. Onsite - Unmitigated
3.5.2. Offsite - Unmitigated
3.6. Paving (2028)
3.6.1. Onsite - Unmitigated
3.6.2. Offsite - Unmitigated
3.7. Paving (2029)
3.7.1. Onsite - Unmitigated
3.7.2. Offsite - Unmitigated
3.8. Architectural Coating (2028)
3.8.1. Onsite - Unmitigated
3.8.2. Offsite - Unmitigated
3.9. Architectural Coating (2029)
3.9.1. Onsite - Unmitigated
3.9.2. Offsite - Unmitigated
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4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated
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4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated
5. Activity Data
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5.2. Off-Road Equipment
5.2.1. Unmitigated
5.3. Construction Vehicles
5.3.1. Unmitigated
5.4. Vehicles
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5.18. Vegetation
5.18.1. Land Use Change
5.18.1.1. Unmitigated
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5.18.1.1. Unmitigated

5.18.2. Sequestration
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6. Climate Risk Detailed Report
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8.4.1. Construction Phases
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8.4.9. Paving

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Charcot DC Double Shift
Construction Start Date	9/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	12.4000
Location	37.242697541871834, -121.79187659094072
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1906
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	516.000	1000sqft	12.9000	516,000	142,003	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.92958	1.78484	23.5050	56.2226	0.07996	0.17034	5.36960	5.43792	0.16447	0.91038	0.97870	9,532.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	76.2647	76.0903	32.0709	115.264	0.16394	0.34825	8.81748	8.96951	0.34175	2.22701	2.37904	19,020.8
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.0483	11.9449	17.0657	46.7624	0.06735	0.14262	1.70662	1.84924	0.13867	0.38512	0.52379	7,949.32
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Unmit.	2.19881	2.17995	3.11449	8.53413	0.01229	0.02603	0.31146	0.33749	0.02531	0.07028	0.09559	1,316.10

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.56452	0.38657	6.36031	16.3576	0.03635	0.06832	5.36960	5.43792	0.06832	0.91038	0.97870	4,792.96
2028	1.92958	1.78484	23.5050	56.2226	0.07996	0.17034	2.14915	2.31949	0.16447	0.50717	0.67164	9,532.05
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.82010	1.60279	12.8055	82.1056	0.12596	0.26162	8.81748	8.96951	0.26099	2.22701	2.37904	15,394.7
2028	76.2647	76.0903	32.0709	115.264	0.16394	0.34825	3.65043	3.99868	0.34175	0.74030	1.08205	19,020.8
2029	74.3499	74.3161	3.79585	17.0676	0.02376	0.04561	0.75827	0.80388	0.04524	0.17833	0.22356	3,146.08
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.26269	0.20771	2.18176	9.89200	0.01749	0.03503	1.38731	1.42234	0.03498	0.33976	0.37475	2,232.15
2028	12.0483	11.9449	17.0657	46.7624	0.06735	0.14262	1.70662	1.84924	0.13867	0.38512	0.52379	7,949.32
2029	5.23782	5.23558	0.26527	1.19974	0.00167	0.00321	0.05300	0.05621	0.00319	0.01246	0.01564	222.213
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2027	0.04794	0.03791	0.39817	1.80529	0.00319	0.00639	0.25318	0.25958	0.00638	0.06201	0.06839	369.557
2028	2.19881	2.17995	3.11449	8.53413	0.01229	0.02603	0.31146	0.33749	0.02531	0.07028	0.09559	1,316.10
2029	0.95590	0.95549	0.04841	0.21895	0.00031	0.00059	0.00967	0.01026	0.00058	0.00227	0.00286	36.7899

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.24045	0.24045	3.60328	13.7652	0.02140	0.03984	4.48150	4.52134	0.03984	0.67863	0.71847	2,171.03
2028	1.15638	1.10989	22.7054	47.6651	0.07782	0.16605	0.00000	0.16605	0.16233	0.00000	0.16233	7,184.66
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.21165	1.20598	9.58849	76.7686	0.11068	0.23252	6.79878	6.89411	0.23189	1.70688	1.80222	12,011.4
2028	75.2513	75.2048	30.8511	106.038	0.16134	0.34308	0.94541	1.28850	0.33873	0.10210	0.44083	16,244.0
2029	74.0949	74.0949	3.54081	14.6010	0.02339	0.04486	0.00000	0.04486	0.04486	0.00000	0.04486	2,420.20
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.14321	0.14280	1.32571	8.91937	0.01313	0.02673	1.05604	1.08277	0.02668	0.25528	0.28197	1,403.35
2028	11.4987	11.4677	16.4170	41.4031	0.06584	0.13961	0.13543	0.27504	0.13710	0.01463	0.15172	6,309.58
2029	5.21999	5.21999	0.24945	1.02864	0.00165	0.00316	0.00000	0.00316	0.00316	0.00000	0.00316	170.503
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.02614	0.02606	0.24194	1.62779	0.00240	0.00488	0.19273	0.19761	0.00487	0.04659	0.05146	232.341

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2028	2.09851	2.09285	2.99611	7.55607	0.01202	0.02548	0.02472	0.05019	0.02502	0.00267	0.02769	1,044.62
2029	0.95265	0.95265	0.04552	0.18773	0.00030	0.00058	0.00000	0.00058	0.00058	0.00000	0.00058	28.2288

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.32407	0.14612	2.75703	2.59237	0.01495	0.02848	0.88810	0.91658	0.02848	0.23175	0.26023	2,621.93
2028	0.77321	0.67495	0.79960	8.55752	0.00214	0.00429	2.14915	2.15344	0.00214	0.50717	0.50932	2,347.39
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72454	0.39681	5.88973	5.73788	0.02977	0.05670	2.01870	2.07540	0.05670	0.52013	0.57683	5,404.11
2028	1.01342	0.88553	1.25945	9.93090	0.00261	0.00517	2.90743	2.91245	0.00302	0.68550	0.68802	2,950.15
2029	0.25500	0.22124	0.25504	2.46660	0.00037	0.00074	0.75827	0.75902	0.00037	0.17833	0.17870	725.880
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.11948	0.06491	0.85605	0.97262	0.00436	0.00830	0.33127	0.33956	0.00830	0.08448	0.09278	828.793
2028	0.54960	0.47727	0.64863	5.35922	0.00151	0.00302	1.57119	1.57420	0.00157	0.37050	0.37207	1,639.74
2029	0.01783	0.01559	0.01582	0.17110	0.00003	0.00005	0.05300	0.05305	0.00003	0.01246	0.01248	51.7096
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.02181	0.01185	0.15623	0.17750	0.00079	0.00151	0.06046	0.06197	0.00151	0.01542	0.01693	137.216
2028	0.10030	0.08710	0.11838	0.97806	0.00028	0.00055	0.28674	0.28729	0.00029	0.06762	0.06790	271.478

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2029	0.00325	0.00285	0.00289	0.03123	< 0.000005	0.00001	0.00967	0.00968	< 0.000005	0.00227	0.00228	8.56111

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24045	0.24045	3.60328	13.7652	0.02140	0.03984	—	0.03984	0.03984	—	0.03984	2,171.03
Demolition	—	—	—	—	—	—	4.48150	4.48150	—	0.67863	0.67863	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24045	0.24045	3.60328	13.7652	0.02140	0.03984	—	0.03984	0.03984	—	0.03984	2,171.03
Demolition	—	—	—	—	—	—	4.48150	4.48150	—	0.67863	0.67863	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	0.03491	0.03491	0.52322	1.99878	0.00311	0.00579	—	0.00579	0.00579	—	0.00579	315.245
Demolition	—	—	—	—	—	—	0.65074	0.65074	—	0.09854	0.09854	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00637	0.00637	0.09549	0.36478	0.00057	0.00106	—	0.00106	0.00106	—	0.00106	52.1925
Demolition	—	—	—	—	—	—	0.11876	0.11876	—	0.01798	0.01798	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10834	0.09699	0.07346	1.24809	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	293.371
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.21574	0.04913	2.68357	1.34428	0.01495	0.02848	0.59877	0.62725	0.02848	0.16393	0.19241	2,328.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10525	0.09391	0.08634	1.06414	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	271.218
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.21289	0.04699	2.83452	1.35496	0.01495	0.02848	0.59877	0.62725	0.02848	0.16393	0.19241	2,325.27

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01506	0.01341	0.01231	0.15304	0.00000	0.00000	0.04168	0.04168	0.00000	0.00976	0.00976	39.8633
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03112	0.00703	0.40342	0.19582	0.00217	0.00414	0.08642	0.09055	0.00414	0.02367	0.02781	337.819
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00275	0.00245	0.00225	0.02793	0.00000	0.00000	0.00761	0.00761	0.00000	0.00178	0.00178	6.59982
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00568	0.00128	0.07362	0.03574	0.00040	0.00075	0.01577	0.01653	0.00075	0.00432	0.00507	55.9298

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27745	0.27745	1.44275	18.3954	0.02716	0.05549	—	0.05549	0.05549	—	0.05549	2,951.32
Dust From Material Movement	—	—	—	—	—	—	2.31728	2.31728	—	1.02826	1.02826	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04029	0.04029	0.20950	2.67112	0.00394	0.00806	—	0.00806	0.00806	—	0.00806	428.547
Dust From Material Movement	—	—	—	—	—	—	0.33648	0.33648	—	0.14931	0.14931	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00735	0.00735	0.03823	0.48748	0.00072	0.00147	—	0.00147	0.00147	—	0.00147	70.9509
Dust From Material Movement	—	—	—	—	—	—	0.06141	0.06141	—	0.02725	0.02725	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19546	0.17440	0.16035	1.97626	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	503.691
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.21094	0.04656	2.80851	1.34253	0.01482	0.02822	0.59328	0.62150	0.02822	0.16243	0.19065	2,303.93
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02797	0.02491	0.02287	0.28422	0.00000	0.00000	0.07740	0.07740	0.00000	0.01813	0.01813	74.0318
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.03083	0.00697	0.39972	0.19402	0.00215	0.00410	0.08562	0.08972	0.00410	0.02345	0.02755	334.720
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00510	0.00455	0.00417	0.05187	0.00000	0.00000	0.01413	0.01413	0.00000	0.00331	0.00331	12.2568
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00563	0.00127	0.07295	0.03541	0.00039	0.00075	0.01563	0.01637	0.00075	0.00428	0.00503	55.4166

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.93419	0.92853	8.14574	58.3732	0.08353	0.17703	—	0.17703	0.17640	—	0.17640	9,060.09

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.94541	0.94541	—	0.10210	0.10210	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06801	0.06760	0.59300	4.24948	0.00608	0.01289	—	0.01289	0.01284	—	0.01284	659.560
Dust From Material Movement	—	—	—	—	—	—	0.06882	0.06882	—	0.00743	0.00743	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01241	0.01234	0.10822	0.77553	0.00111	0.00235	—	0.00235	0.00234	—	0.00234	109.198
Dust From Material Movement	—	—	—	—	—	—	0.01256	0.01256	—	0.00136	0.00136	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.19546	0.17440	0.16035	1.97626	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	503.691
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00659	0.00146	0.08777	0.04195	0.00046	0.00088	0.01854	0.01942	0.00088	0.00508	0.00596	71.9979
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01402	0.01249	0.01146	0.14249	0.00000	0.00000	0.03880	0.03880	0.00000	0.00909	0.00909	37.1157
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00048	0.00011	0.00626	0.00304	0.00003	0.00006	0.00134	0.00141	0.00006	0.00037	0.00043	5.24409
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00256	0.00228	0.00209	0.02600	0.00000	0.00000	0.00708	0.00708	0.00000	0.00166	0.00166	6.14492
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00009	0.00002	0.00114	0.00055	0.00001	0.00001	0.00024	0.00026	0.00001	0.00007	0.00008	0.86822

3.4. Grading (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	0.93419	0.92853	8.14574	58.3732	0.08352	0.17703	—	0.17703	0.17640	—	0.17640	9,059.33
Dust From Material Movement	—	—	—	—	—	—	0.94541	0.94541	—	0.10210	0.10210	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13382	0.13301	1.16687	8.36187	0.01196	0.02536	—	0.02536	0.02527	—	0.02527	1,297.74
Dust From Material Movement	—	—	—	—	—	—	0.13543	0.13543	—	0.01463	0.01463	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02442	0.02427	0.21295	1.52604	0.00218	0.00463	—	0.00463	0.00461	—	0.00461	214.855
Dust From Material Movement	—	—	—	—	—	—	0.02472	0.02472	—	0.00267	0.00267	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18830	0.16723	0.15892	1.85803	0.00000	0.00000	0.53732	0.53732	0.00000	0.12595	0.12595	495.057
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00657	0.00143	0.08450	0.04065	0.00046	0.00088	0.01854	0.01942	0.00088	0.00508	0.00596	70.2131
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02677	0.02375	0.01995	0.26407	0.00000	0.00000	0.07636	0.07636	0.00000	0.01789	0.01789	71.7712
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00095	0.00021	0.01192	0.00580	0.00007	0.00013	0.00264	0.00277	0.00013	0.00072	0.00085	10.0626
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00489	0.00433	0.00364	0.04819	0.00000	0.00000	0.01394	0.01394	0.00000	0.00326	0.00326	11.8825
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00017	0.00004	0.00218	0.00106	0.00001	0.00002	0.00048	0.00050	0.00002	0.00013	0.00016	1.66598

3.5. Building Construction (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	1.15638	1.10989	22.7054	47.6651	0.07782	0.16605	—	0.16605	0.16233	—	0.16233	7,184.66
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15638	1.10989	22.7054	47.6651	0.07782	0.16605	—	0.16605	0.16233	—	0.16233	7,184.66
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75085	0.72067	14.7430	30.9497	0.05053	0.10782	—	0.10782	0.10540	—	0.10540	4,665.10
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13703	0.13152	2.69059	5.64832	0.00922	0.01968	—	0.01968	0.01924	—	0.01924	772.361
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.74662	0.66556	0.45492	8.38490	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	2,040.57
Vendor	0.02658	0.00939	0.34468	0.17262	0.00214	0.00429	0.08154	0.08583	0.00214	0.02253	0.02467	306.828

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72457	0.64351	0.61153	7.14971	0.00000	0.00000	2.06761	2.06761	0.00000	0.48465	0.48465	1,904.98
Vendor	0.02393	0.00888	0.36478	0.17721	0.00214	0.00429	0.08154	0.08583	0.00214	0.02253	0.02467	306.547
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46689	0.41426	0.34802	4.60590	0.00000	0.00000	1.33184	1.33184	0.00000	0.31201	0.31201	1,251.85
Vendor	0.01726	0.00593	0.23225	0.11341	0.00139	0.00278	0.05259	0.05537	0.00139	0.01454	0.01593	199.070
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08521	0.07560	0.06351	0.84058	0.00000	0.00000	0.24306	0.24306	0.00000	0.05694	0.05694	207.257
Vendor	0.00315	0.00108	0.04239	0.02070	0.00025	0.00051	0.00960	0.01011	0.00025	0.00265	0.00291	32.9583
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Paving (2028)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20216	0.20216	1.69817	11.8538	0.01874	0.03816	—	0.03816	0.03816	—	0.03816	2,035.76
Paving	0.06718	0.06718	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02896	0.02896	0.24326	1.69804	0.00268	0.00547	—	0.00547	0.00547	—	0.00547	291.620
Paving	0.00962	0.00962	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00529	0.00529	0.04440	0.30989	0.00049	0.00100	—	0.00100	0.00100	—	0.00100	48.2810
Paving	0.00176	0.00176	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.17381	0.15437	0.14670	1.71511	0.00000	0.00000	0.49599	0.49599	0.00000	0.11626	0.11626	456.976
Vendor	0.00207	0.00077	0.03152	0.01531	0.00019	0.00037	0.00705	0.00742	0.00019	0.00195	0.00213	26.4895
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02471	0.02192	0.01842	0.24375	0.00000	0.00000	0.07048	0.07048	0.00000	0.01651	0.01651	66.2504
Vendor	0.00033	0.00011	0.00443	0.00216	0.00003	0.00005	0.00100	0.00106	0.00003	0.00028	0.00030	3.79505
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00451	0.00400	0.00336	0.04449	0.00000	0.00000	0.01286	0.01286	0.00000	0.00301	0.00301	10.9685
Vendor	0.00006	0.00002	0.00081	0.00039	< 0.000005	0.00001	0.00018	0.00019	< 0.000005	0.00005	0.00006	0.62831
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Paving (2029)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	0.20216	0.20216	1.69817	11.8538	0.01874	0.03816	—	0.03816	0.03816	—	0.03816	2,035.46
Paving	0.06718	0.06718	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01424	0.01424	0.11964	0.83510	0.00132	0.00269	—	0.00269	0.00269	—	0.00269	143.398
Paving	0.00473	0.00473	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00260	0.00260	0.02183	0.15241	0.00024	0.00049	—	0.00049	0.00049	—	0.00049	23.7412
Paving	0.00086	0.00086	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16720	0.14643	0.12990	1.62410	0.00000	0.00000	0.49599	0.49599	0.00000	0.11626	0.11626	449.434

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00207	0.00077	0.03007	0.01490	0.00019	0.00037	0.00705	0.00742	0.00019	0.00195	0.00213	25.7748
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01169	0.01032	0.00778	0.11266	0.00000	0.00000	0.03466	0.03466	0.00000	0.00812	0.00812	32.0427
Vendor	0.00015	0.00006	0.00207	0.00103	0.00001	0.00003	0.00049	0.00052	0.00001	0.00014	0.00015	1.81634
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00213	0.00188	0.00142	0.02056	0.00000	0.00000	0.00633	0.00633	0.00000	0.00148	0.00148	5.30504
Vendor	0.00003	0.00001	0.00038	0.00019	< 0.000005	< 0.000005	0.00009	0.00009	< 0.000005	0.00002	0.00003	0.30072
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Architectural Coating (2028)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06030	0.06030	1.84264	2.74721	0.00465	0.00670	—	0.00670	0.00670	—	0.00670	384.759

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Architectural Coatings	73.7653	73.7653	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00864	0.00864	0.26396	0.39353	0.00067	0.00096	—	0.00096	0.00096	—	0.00096	55.1161
Architectural Coatings	10.5668	10.5668	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00158	0.00158	0.04817	0.07182	0.00012	0.00018	—	0.00018	0.00018	—	0.00018	9.12510
Architectural Coatings	1.92843	1.92843	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08698	0.07725	0.07341	0.85824	0.00000	0.00000	0.24819	0.24819	0.00000	0.05818	0.05818	228.671

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00207	0.00077	0.03152	0.01531	0.00019	0.00037	0.00705	0.00742	0.00019	0.00195	0.00213	26.4895
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01236	0.01097	0.00922	0.12197	0.00000	0.00000	0.03527	0.03527	0.00000	0.00826	0.00826	33.1517
Vendor	0.00033	0.00011	0.00443	0.00216	0.00003	0.00005	0.00100	0.00106	0.00003	0.00028	0.00030	3.79505
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00226	0.00200	0.00168	0.02226	0.00000	0.00000	0.00644	0.00644	0.00000	0.00151	0.00151	5.48864
Vendor	0.00006	0.00002	0.00081	0.00039	< 0.000005	0.00001	0.00018	0.00019	< 0.000005	0.00005	0.00006	0.62831
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9. Architectural Coating (2029)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06030	0.06030	1.84264	2.74721	0.00465	0.00670	—	0.00670	0.00670	—	0.00670	384.741

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Architectural Coatings	73.7653	73.7653	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00425	0.00425	0.12981	0.19354	0.00033	0.00047	—	0.00047	0.00047	—	0.00047	27.1051
Architectural Coatings	5.19677	5.19677	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00078	0.00078	0.02369	0.03532	0.00006	0.00009	—	0.00009	0.00009	—	0.00009	4.48755
Architectural Coatings	0.94841	0.94841	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08367	0.07327	0.06500	0.81270	0.00000	0.00000	0.24819	0.24819	0.00000	0.05818	0.05818	224.897

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00207	0.00077	0.03007	0.01490	0.00019	0.00037	0.00705	0.00742	0.00019	0.00195	0.00213	25.7748
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00585	0.00516	0.00389	0.05637	0.00000	0.00000	0.01735	0.01735	0.00000	0.00406	0.00406	16.0342
Vendor	0.00015	0.00006	0.00207	0.00103	0.00001	0.00003	0.00049	0.00052	0.00001	0.00014	0.00015	1.81634
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00107	0.00094	0.00071	0.01029	0.00000	0.00000	0.00317	0.00317	0.00000	0.00074	0.00074	2.65464
Vendor	0.00003	0.00001	0.00038	0.00019	< 0.000005	< 0.000005	0.00009	0.00009	< 0.000005	0.00002	0.00003	0.30072
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2027	11/1/2027	6.00000	53.0000	—
Site Preparation	Site Preparation	10/1/2027	12/1/2027	6.00000	53.0000	—
Grading	Grading	12/1/2027	3/1/2028	6.00000	79.0000	—
Building Construction	Building Construction	3/1/2028	12/1/2028	6.00000	237.000	—
Paving	Paving	11/1/2028	1/30/2029	6.00000	78.0000	—
Architectural Coating	Architectural Coating	11/1/2028	1/30/2029	6.00000	78.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	3.90000	367.000	0.40000
Demolition	Excavators	Diesel	Tier 4 Final	2.00000	6.00000	36.0000	0.38000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	6.00000	2.10000	33.0000	0.73000
Demolition	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	2.00000	3.90000	84.0000	0.37000
Demolition	Rubber Tired Loaders	Diesel	Tier 4 Final	2.00000	3.90000	150.000	0.36000
Demolition	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	3.00000	82.0000	0.42000
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.000000	6.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	3.00000	6.00000	84.0000	0.37000
Site Preparation	Graders	Diesel	Tier 4 Final	2.00000	4.50000	148.000	0.41000
Site Preparation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	6.00000	150.000	0.36000
Site Preparation	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	6.00000	82.0000	0.42000
Grading	Graders	Diesel	Tier 4 Final	2.00000	8.80000	148.000	0.41000
Grading	Excavators	Diesel	Tier 4 Final	4.00000	8.80000	36.0000	0.38000
Grading	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	8.00000	8.80000	84.0000	0.37000
Grading	Scrapers	Diesel	Tier 4 Final	1.000000	5.30000	423.000	0.48000
Grading	Cranes	Diesel	Tier 4 Final	2.00000	4.30000	367.000	0.29000
Grading	Rollers	Diesel	Tier 4 Final	1.000000	1.40000	36.0000	0.38000
Grading	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	8.20000	150.000	0.36000
Grading	Sweepers/Scrubbers	Diesel	Tier 4 Final	1.000000	8.80000	36.0000	0.46000
Grading	Bore/Drill Rigs	Diesel	Tier 4 Final	2.00000	12.3000	83.0000	0.50000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Pumps	Diesel	Tier 4 Final	1.000000	2.70000	11.0000	0.74000
Grading	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	8.80000	82.0000	0.42000
Building Construction	Forklifts	Diesel	Tier 4 Final	6.00000	10.1000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Tier 4 Final	3.00000	9.00000	14.0000	0.74000
Building Construction	Cranes	Diesel	Tier 4 Final	2.00000	5.40000	367.000	0.29000
Building Construction	Welders	Diesel	Tier 4 Final	24.0000	4.50000	46.0000	0.45000
Building Construction	Excavators	Diesel	Tier 4 Final	1.000000	9.50000	36.0000	0.38000
Building Construction	Pumps	Diesel	Tier 4 Final	2.00000	2.70000	11.0000	0.74000
Building Construction	Aerial Lifts	Diesel	Tier 4 Final	8.00000	6.70000	46.0000	0.31000
Building Construction	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	7.60000	82.0000	0.42000
Paving	Pavers	Diesel	Tier 4 Final	2.00000	4.70000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00000	4.70000	89.0000	0.36000
Paving	Rollers	Diesel	Tier 4 Final	2.00000	4.70000	36.0000	0.38000
Paving	Surfacing Equipment	Diesel	Tier 4 Final	2.00000	4.10000	399.000	0.30000
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	3.00000	4.50000	37.0000	0.48000
Architectural Coating	Aerial Lifts	Diesel	Tier 4 Final	1.000000	4.50000	46.0000	0.31000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	35.0000	11.7000	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40000	HHDT,MHDT
Demolition	Hauling	32.2963	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	65.0000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	32.0000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	65.0000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT
Grading	Hauling	1.000000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	250.120	11.7000	LDA,LDT1,LDT2
Building Construction	Vendor	11.5724	8.40000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	60.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	1.000000	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	30.0240	11.7000	LDA,LDT1,LDT2

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Architectural Coating	Vendor	1.000000	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	774,000	258,000	80,000.0

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	362,895	0.00000
Site Preparation	0.00000	0.00000	35.6125	0.00000	0.00000
Grading	1,100.00	0.00000	90.2500	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	2.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	General Office Building	2.00000	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400
2029	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	14.1200	annual days of extreme heat
Extreme Precipitation	6.40000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	11.2600	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

Indicator	Result for Project Census Tract
AQ-Ozone	29.8942
AQ-PM	14.5488
AQ-DPM	48.5128
Drinking Water	46.7591
Lead Risk Housing	39.5841
Pesticides	0.00000
Toxic Releases	21.2678
Traffic	73.0375
Effect Indicators	—
CleanUp Sites	59.3692
Groundwater	39.4488
Haz Waste Facilities/Generators	99.4573
Impaired Water Bodies	0.00000
Solid Waste	0.00000
Sensitive Population	—
Asthma	36.9018
Cardio-vascular	55.0972
Low Birth Weights	28.5219
Socioeconomic Factor Indicators	—
Education	21.3743
Housing	52.0913

Indicator	Result for Project Census Tract
Linguistic	52.5105
Poverty	15.3266
Unemployment	30.8824

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	74.20762223
Employed	58.03926601
Median HI	89.86269729
Education	—
Bachelor's or higher	72.69344283
High school enrollment	23.00782754
Preschool enrollment	63.77518286
Transportation	—
Auto Access	53.75336841
Active commuting	53.72770435
Social	—
2-parent households	51.00731426
Voting	34.9544463

Indicator	Result for Project Census Tract
Neighborhood	—
Alcohol availability	72.16732965
Park access	81.35506224
Retail density	53.35557552
Supermarket access	13.08866932
Tree canopy	57.19235211
Housing	—
Homeownership	68.17656872
Housing habitability	75.34967278
Low-inc homeowner severe housing cost burden	80.11035545
Low-inc renter severe housing cost burden	50.67368151
Uncrowded housing	49.1979982
Health Outcomes	—
Insured adults	77.62094187
Arthritis	56.7
Asthma ER Admissions	65.9
High Blood Pressure	69.1
Cancer (excluding skin)	40.8
Asthma	58.2
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	65.3

Indicator	Result for Project Census Tract
Diagnosed Diabetes	70.5
Life Expectancy at Birth	63.1
Cognitively Disabled	62.4
Physically Disabled	67.1
Heart Attack ER Admissions	67.4
Mental Health Not Good	66.0
Chronic Kidney Disease	73.0
Obesity	61.1
Pedestrian Injuries	44.1
Physical Health Not Good	69.2
Stroke	75.8
Health Risk Behaviors	—
Binge Drinking	47.1
Current Smoker	70.0
No Leisure Time for Physical Activity	70.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	53.3
Elderly	46.6
English Speaking	70.1

Indicator	Result for Project Census Tract
Foreign-born	49.2
Outdoor Workers	62.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.7
Traffic Density	53.6
Traffic Access	66.9
Other Indices	—
Hardship	35.5
Other Decision Support	—
2016 Voting	78.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	31.0000
Healthy Places Index Score for Project Location (b)	74.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Applicant supplied data.
Construction: Construction Phases	Applicant supplied phase dates.
Construction: Off-Road Equipment	Applicant supplied data.
Construction: Off-Road Equipment EF	Manual inputs of EFs for pumps and gen sets.
Construction: Dust From Material Movement	Applicant supplied data.
Construction: Trips and VMT	Applicant best estimate.
Construction: Paving	Applicant supplied data.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	11.8457	12.9000

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	142,003

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	9/29/2027	11/1/2027
Demolition	Demolition	Days/Week	5.00000	6.00000
Demolition	Demolition	Work Days per Phase	20.0000	53.0000
Site Preparation	Site Preparation	Start Date	9/30/2027	10/1/2027
Site Preparation	Site Preparation	End Date	10/14/2027	12/1/2027
Site Preparation	Site Preparation	Days/Week	5.00000	6.00000
Site Preparation	Site Preparation	Work Days per Phase	10.00000	53.0000
Grading	Grading	Start Date	10/15/2027	12/1/2027
Grading	Grading	End Date	11/26/2027	3/1/2028
Grading	Grading	Days/Week	5.00000	6.00000
Grading	Grading	Work Days per Phase	30.0000	79.0000
Building Construction	Building Construction	Start Date	11/27/2027	3/1/2028
Building Construction	Building Construction	End Date	1/20/2029	12/1/2028
Building Construction	Building Construction	Days/Week	5.00000	6.00000
Building Construction	Building Construction	Work Days per Phase	300.000	237.000

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Paving	Paving	Start Date	1/21/2029	11/1/2028
Paving	Paving	End Date	2/18/2029	1/30/2029
Paving	Paving	Days/Week	5.00000	6.00000
Paving	Paving	Work Days per Phase	20.0000	78.0000
Architectural Coating	Architectural Coating	Start Date	2/19/2029	11/1/2028
Architectural Coating	Architectural Coating	End Date	3/19/2029	1/30/2029
Architectural Coating	Architectural Coating	Days/Week	5.00000	6.00000
Architectural Coating	Architectural Coating	Work Days per Phase	20.0000	78.0000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Demolition	Rubber Tired Dozers	Engine Tier	Average	Tier 4 Final
Demolition	Rubber Tired Dozers	Number per Day	2.00000	1.000000
Demolition	Rubber Tired Dozers	Hours Per Day	8.00000	3.90000
Demolition	Excavators	Engine Tier	Average	Tier 4 Final
Demolition	Excavators	Number per Day	3.00000	2.00000
Demolition	Excavators	Hours Per Day	8.00000	6.00000
Demolition	Concrete/Industrial Saws	Engine Tier	Average	Tier 4 Final
Demolition	Concrete/Industrial Saws	Number per Day	1.000000	6.00000
Demolition	Concrete/Industrial Saws	Hours Per Day	8.00000	2.10000
Site Preparation	Rubber Tired Dozers	Engine Tier	Average	Tier 4 Final

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Site Preparation	Rubber Tired Dozers	Number per Day	3.00000	1.000000
Site Preparation	Rubber Tired Dozers	Hours Per Day	8.00000	6.00000
Site Preparation	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Site Preparation	Tractors/Loaders/Backhoes	Number per Day	4.00000	3.00000
Site Preparation	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	6.00000
Site Preparation	Graders	Hours Per Day	4.40000	4.50000
Site Preparation	Rubber Tired Loaders	Hours Per Day	5.90000	6.00000
Site Preparation	Other Construction Equipment	Hours Per Day	5.90000	6.00000
Grading	Graders	Engine Tier	Average	Tier 4 Final
Grading	Graders	Number per Day	1.000000	2.00000
Grading	Graders	Hours Per Day	8.00000	8.80000
Grading	Excavators	Engine Tier	Average	Tier 4 Final
Grading	Excavators	Number per Day	2.00000	4.00000
Grading	Excavators	Hours Per Day	8.00000	8.80000
Grading	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Grading	Tractors/Loaders/Backhoes	Number per Day	2.00000	8.00000
Grading	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	8.80000
Grading	Scrapers	Engine Tier	Average	Tier 4 Final
Grading	Scrapers	Number per Day	2.00000	1.000000
Grading	Scrapers	Hours Per Day	8.00000	5.30000
Grading	Cranes	Hours Per Day	14.3000	4.30000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Grading	Rubber Tired Loaders	Hours Per Day	8.10000	8.20000
Grading	Sweepers/Scrubbers	Hours Per Day	8.70000	8.80000
Grading	Bore/Drill Rigs	Hours Per Day	12.2000	12.3000
Grading	Pumps	Hours Per Day	2.60000	2.70000
Grading	Other Construction Equipment	Hours Per Day	8.70000	8.80000
Building Construction	Forklifts	Engine Tier	Average	Tier 4 Final
Building Construction	Forklifts	Number per Day	3.00000	6.00000
Building Construction	Forklifts	Hours Per Day	8.00000	10.1000
Building Construction	Generator Sets	Engine Tier	Average	Tier 4 Final
Building Construction	Generator Sets	Number per Day	1.000000	3.00000
Building Construction	Generator Sets	Hours Per Day	8.00000	9.00000
Building Construction	Cranes	Engine Tier	Average	Tier 4 Final
Building Construction	Cranes	Number per Day	1.000000	2.00000
Building Construction	Cranes	Hours Per Day	7.00000	5.40000
Building Construction	Welders	Engine Tier	Average	Tier 4 Final
Building Construction	Welders	Number per Day	1.000000	24.0000
Building Construction	Welders	Hours Per Day	8.00000	4.50000
Building Construction	Pumps	Hours Per Day	2.20000	2.70000
Building Construction	Aerial Lifts	Hours Per Day	5.50000	6.70000
Building Construction	Other Construction Equipment	Hours Per Day	6.20000	7.60000
Paving	Pavers	Engine Tier	Average	Tier 4 Final

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Paving	Pavers	Hours Per Day	8.00000	4.70000
Paving	Paving Equipment	Engine Tier	Average	Tier 4 Final
Paving	Paving Equipment	Hours Per Day	8.00000	4.70000
Paving	Rollers	Engine Tier	Average	Tier 4 Final
Paving	Rollers	Hours Per Day	8.00000	4.70000
Architectural Coating	Air Compressors	Engine Tier	Average	Tier 4 Final
Architectural Coating	Air Compressors	Number per Day	1.000000	3.00000
Architectural Coating	Air Compressors	Hours Per Day	6.00000	4.50000
Architectural Coating	Aerial Lifts	Hours Per Day	6.60000	4.50000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation	Material Imported	Cubic Yards	—	0.00000
Site Preparation	Material Exported	Cubic Yards	—	0.00000
Site Preparation	Total Acres Graded	acres	49.6875	35.6125
Grading	Material Imported	Cubic Yards	—	1,100.00
Grading	Material Exported	Cubic Yards	—	0.00000
Grading	Total Acres Graded	acres	139.238	90.2500

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Demolition	Hauling	One-Way Trips per Day	78.7547	32.2963
Site Preparation	Worker	One-Way Trips per Day	20.0000	65.0000
Site Preparation	Hauling	One-Way Trips per Day	0.00000	32.0000
Grading	Worker	One-Way Trips per Day	60.0000	65.0000
Grading	Hauling	One-Way Trips per Day	1.74684	1.000000
Building Construction	Worker	One-Way Trips per Day	165.120	250.120
Building Construction	Vendor	One-Way Trips per Day	84.5724	11.5724
Paving	Worker	One-Way Trips per Day	20.0000	60.0000
Architectural Coating	Worker	One-Way Trips per Day	33.0240	30.0240

8.4.9. Paving

Phase Name	Land Use	Model Parameter	Units	Default Value	New Value
Paving	General Office Building	Area Paved	acres	0.00000	2.00000
Paving	General Office Building	% Asphalt	%	0.00000	100.0000

Trimble Switchyard-Charcot Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Trimble Switchyard-Charcot
Construction Start Date	10/1/2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00000
Precipitation (days)	31.0000
Location	37.38055167786209, -121.92525888656499
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1882
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	357.192	1000sqft	9.70000	357,192	5,000.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.6970	3.86570	8.11150	0.01282	0.06637	0.35904	0.42541	0.06210	0.08694	0.14904	1,616.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.35014	3.89461	7.95303	0.01282	0.06637	0.35904	0.42541	0.06210	0.08694	0.14904	1,620.65
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.21544	2.37293	5.48798	0.00909	0.04559	0.24856	0.28615	0.04275	0.05857	0.10021	1,134.08
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Unmit.	0.95182	0.43306	1.00156	0.00166	0.00832	0.04536	0.05222	0.00780	0.01069	0.01829	187.760

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2029	0.35358	3.86570	8.11150	0.01282	0.06637	0.35904	0.42541	0.06210	0.08694	0.14904	1,616.82
2030	42.9812	3.84486	8.04225	0.01282	0.06600	0.35904	0.42504	0.06210	0.08694	0.14904	1,581.20
2031	0.14914	1.77726	6.12513	0.01043	0.02013	0.30851	0.32863	0.02013	0.06891	0.08904	1,342.72
2032	0.32422	3.09425	6.98355	0.01070	0.06365	0.34050	0.40415	0.05969	0.08186	0.14155	1,370.35
2033	43.6970	0.37207	2.42222	0.00288	0.00886	0.09920	0.10806	0.00859	0.02325	0.03184	394.794
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.17524	2.22961	7.20899	0.01253	0.02456	0.34435	0.36891	0.02456	0.07666	0.10122	1,620.65
2029	0.35014	3.89461	7.95303	0.01282	0.06637	0.35904	0.42541	0.06210	0.08694	0.14904	1,605.75
2030	0.34668	3.87259	7.89639	0.01282	0.06600	0.35904	0.42504	0.06210	0.08694	0.14904	1,562.87
2031	0.14738	1.80415	6.04484	0.01043	0.02013	0.30851	0.32863	0.02013	0.06891	0.08904	1,330.82
2032	0.32092	3.11690	6.84495	0.01070	0.06365	0.34050	0.40415	0.05969	0.08186	0.14155	1,350.16

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2033	0.31783	3.10962	6.81193	0.01070	0.06365	0.34050	0.40415	0.05969	0.08186	0.14155	1,341.82
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.02302	0.26885	0.92041	0.00155	0.00305	0.04539	0.04844	0.00305	0.01015	0.01320	204.566
2029	0.20793	2.37293	5.48798	0.00909	0.03759	0.24856	0.28615	0.03554	0.05857	0.09412	1,134.08
2030	5.20672	1.62629	3.31641	0.00537	0.02746	0.15105	0.17851	0.02584	0.03652	0.06236	657.842
2031	0.06169	0.75040	2.53120	0.00437	0.00844	0.12737	0.13581	0.00844	0.02840	0.03683	558.596
2032	0.22940	2.22878	4.89667	0.00766	0.04559	0.23918	0.28477	0.04275	0.05746	0.10021	969.151
2033	5.21544	0.63439	1.65006	0.00244	0.01286	0.07613	0.08899	0.01212	0.01818	0.03030	310.438
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.00420	0.04906	0.16798	0.00028	0.00056	0.00828	0.00884	0.00056	0.00185	0.00241	33.8682
2029	0.03795	0.43306	1.00156	0.00166	0.00686	0.04536	0.05222	0.00649	0.01069	0.01718	187.760
2030	0.95023	0.29680	0.60525	0.00098	0.00501	0.02757	0.03258	0.00472	0.00667	0.01138	108.913
2031	0.01126	0.13695	0.46194	0.00080	0.00154	0.02324	0.02478	0.00154	0.00518	0.00672	92.4819
2032	0.04187	0.40675	0.89364	0.00140	0.00832	0.04365	0.05197	0.00780	0.01049	0.01829	160.454
2033	0.95182	0.11578	0.30114	0.00045	0.00235	0.01389	0.01624	0.00221	0.00332	0.00553	51.3966

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2029	0.26021	3.51372	6.85653	0.01106	0.06299	0.06778	0.08705	0.05908	0.00746	0.05908	1,056.28

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2030	42.9688	3.51372	6.85653	0.01106	0.06299	0.00000	0.06299	0.05908	0.00000	0.05908	1,056.28
2031	0.09697	1.40671	5.38077	0.00821	0.01623	0.05493	0.07115	0.01623	0.00596	0.02219	881.439
2032	0.24161	2.86149	5.94342	0.00940	0.06152	0.00000	0.06152	0.05755	0.00000	0.05755	930.402
2033	43.6970	0.35776	2.11062	0.00288	0.00886	0.00000	0.00886	0.00859	0.00000	0.00859	303.915
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.11518	1.67369	6.39336	0.00975	0.01927	0.06778	0.08705	0.01927	0.00746	0.02672	1,047.04
2029	0.26021	3.51372	6.85653	0.01106	0.06299	0.06778	0.08705	0.05908	0.00746	0.05908	1,056.28
2030	0.26021	3.51372	6.85653	0.01106	0.06299	0.00000	0.06299	0.05908	0.00000	0.05908	1,056.28
2031	0.09697	1.40671	5.38077	0.00821	0.01623	0.05493	0.07115	0.01623	0.00596	0.02219	881.439
2032	0.24161	2.86149	5.94342	0.00940	0.06152	0.00000	0.06152	0.05755	0.00000	0.05755	930.402
2033	0.24161	2.86149	5.94342	0.00940	0.06152	0.00000	0.06152	0.05755	0.00000	0.05755	930.402
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.01434	0.20285	0.80663	0.00122	0.00242	0.00809	0.01051	0.00242	0.00089	0.00331	131.204
2029	0.15181	2.07770	4.78875	0.00759	0.03472	0.01592	0.05064	0.03285	0.00175	0.03460	752.215
2030	5.17003	1.47833	2.87528	0.00464	0.02621	0.00000	0.02621	0.02459	0.00000	0.02459	442.553
2031	0.04065	0.58966	2.25550	0.00344	0.00680	0.02302	0.02983	0.00680	0.00250	0.00930	369.480
2032	0.17305	2.04952	4.25693	0.00673	0.04406	0.00000	0.04406	0.04122	0.00000	0.04122	666.393
2033	5.19771	0.58827	1.45334	0.00222	0.01249	0.00000	0.01249	0.01174	0.00000	0.01174	222.320
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.00262	0.03702	0.14721	0.00022	0.00044	0.00148	0.00192	0.00044	0.00016	0.00060	21.7223
2029	0.02771	0.37918	0.87395	0.00139	0.00634	0.00290	0.00924	0.00600	0.00032	0.00632	124.538

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2030	0.94353	0.26980	0.52474	0.00085	0.00478	0.00000	0.00478	0.00449	0.00000	0.00449	73.2698
2031	0.00742	0.10761	0.41163	0.00063	0.00124	0.00420	0.00544	0.00124	0.00046	0.00170	61.1716
2032	0.03158	0.37404	0.77689	0.00123	0.00804	0.00000	0.00804	0.00752	0.00000	0.00752	110.329
2033	0.94858	0.10736	0.26523	0.00040	0.00228	0.00000	0.00228	0.00214	0.00000	0.00214	36.8075

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2029	0.09337	0.50023	1.25497	0.00278	0.00529	0.35904	0.36243	0.00529	0.08694	0.08995	570.212
2030	0.09068	0.33114	1.18572	0.00176	0.00302	0.35904	0.36206	0.00302	0.08694	0.08995	524.915
2031	0.05218	0.37054	0.74436	0.00222	0.00390	0.25358	0.25748	0.00390	0.06295	0.06685	461.276
2032	0.08261	0.23277	1.04013	0.00130	0.00213	0.34050	0.34263	0.00213	0.08186	0.08400	439.944
2033	0.02585	0.01431	0.31159	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	90.8798
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.06005	0.55592	0.81562	0.00278	0.00529	0.27657	0.28186	0.00529	0.06921	0.07450	573.604
2029	0.08993	0.53325	1.09650	0.00278	0.00529	0.35904	0.36243	0.00529	0.08694	0.08995	559.146
2030	0.08647	0.35887	1.03986	0.00176	0.00302	0.35904	0.36206	0.00302	0.08694	0.08995	506.587
2031	0.05042	0.39744	0.66407	0.00222	0.00390	0.25358	0.25748	0.00390	0.06295	0.06685	449.378
2032	0.07931	0.25542	0.90153	0.00130	0.00213	0.34050	0.34263	0.00213	0.08186	0.08400	419.754

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2033	0.07622	0.24814	0.86851	0.00130	0.00213	0.34050	0.34263	0.00213	0.08186	0.08400	411.414
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.00869	0.06600	0.11378	0.00033	0.00063	0.03730	0.03794	0.00063	0.00926	0.00989	73.3620
2029	0.05612	0.29523	0.69923	0.00150	0.00287	0.23264	0.23551	0.00269	0.05682	0.05951	381.866
2030	0.03668	0.14796	0.44114	0.00073	0.00126	0.15105	0.15231	0.00126	0.03652	0.03778	215.289
2031	0.02104	0.16073	0.27570	0.00093	0.00163	0.10435	0.10598	0.00163	0.02590	0.02753	189.116
2032	0.05635	0.17927	0.63974	0.00093	0.00153	0.23918	0.24071	0.00153	0.05746	0.05899	302.758
2033	0.01773	0.04612	0.19673	0.00023	0.00038	0.07613	0.07650	0.00038	0.01818	0.01856	88.1186
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.00159	0.01205	0.02076	0.00006	0.00012	0.00681	0.00692	0.00012	0.00169	0.00180	12.1459
2029	0.01024	0.05388	0.12761	0.00027	0.00052	0.04246	0.04298	0.00049	0.01037	0.01086	63.2222
2030	0.00669	0.02700	0.08051	0.00013	0.00023	0.02757	0.02780	0.00023	0.00667	0.00689	35.6436
2031	0.00384	0.02933	0.05032	0.00017	0.00030	0.01904	0.01934	0.00030	0.00473	0.00502	31.3103
2032	0.01028	0.03272	0.11675	0.00017	0.00028	0.04365	0.04393	0.00028	0.01049	0.01077	50.1251
2033	0.00324	0.00842	0.03590	0.00004	0.00007	0.01389	0.01396	0.00007	0.00332	0.00339	14.5890

3. Construction Emissions Details

3.1. Site Preparation (2028)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00974	0.05064	0.72060	0.00095	0.00195	—	0.00195	0.00195	—	0.00195	103.103
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00059	0.00305	0.04343	0.00006	0.00012	—	0.00012	0.00012	—	0.00012	6.21445
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00011	0.00056	0.00793	0.00001	0.00002	—	0.00002	0.00002	—	0.00002	1.02887
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02573	0.02445	0.28585	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	76.1626
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00154	0.00129	0.01709	0.00000	0.00000	0.00488	0.00488	0.00000	0.00114	0.00114	4.64597
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00028	0.00024	0.00312	0.00000	0.00000	0.00089	0.00089	0.00000	0.00021	0.00021	0.76919
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading 115kV (2028)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11518	1.67369	6.39336	0.00975	0.01927	—	0.01927	0.01927	—	0.01927	1,047.04
Dust From Material Movement	—	—	—	—	—	0.06778	0.06778	—	0.00746	0.00746	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01375	0.19979	0.76320	0.00116	0.00230	—	0.00230	0.00230	—	0.00230	124.990
Dust From Material Movement	—	—	—	—	—	0.00809	0.00809	—	0.00089	0.00089	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00251	0.03646	0.13928	0.00021	0.00042	—	0.00042	0.00042	—	0.00042	20.6934
Dust From Material Movement	—	—	—	—	—	0.00148	0.00148	—	0.00016	0.00016	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05146	0.04890	0.57170	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	152.325
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00860	0.50702	0.24392	0.00278	0.00529	0.11124	0.11653	0.00529	0.03046	0.03575	421.279
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00609	0.00512	0.06771	0.00000	0.00000	0.01934	0.01934	0.00000	0.00453	0.00453	18.4029
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00106	0.05959	0.02898	0.00033	0.00063	0.01308	0.01371	0.00063	0.00359	0.00422	50.3131
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00111	0.00093	0.01236	0.00000	0.00000	0.00353	0.00353	0.00000	0.00083	0.00083	3.04681
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00019	0.01088	0.00529	0.00006	0.00012	0.00239	0.00250	0.00012	0.00065	0.00077	8.32991

3.3. Grading 115kV (2029)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11518	1.67369	6.39336	0.00975	0.01927	—	0.01927	0.01927	—	0.01927	1,046.60
Dust From Material Movement	—	—	—	—	—	0.06778	0.06778	—	0.00746	0.00746	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11518	1.67369	6.39336	0.00975	0.01927	—	0.01927	0.01927	—	0.01927	1,046.60
Dust From Material Movement	—	—	—	—	—	0.06778	0.06778	—	0.00746	0.00746	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02705	0.39304	1.50138	0.00229	0.00453	—	0.00453	0.00453	—	0.00453	245.778
Dust From Material Movement	—	—	—	—	—	0.01592	0.01592	—	0.00175	0.00175	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00494	0.07173	0.27400	0.00042	0.00083	—	0.00083	0.00083	—	0.00083	40.6914

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	0.00290	0.00290	—	0.00032	0.00032	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05057	0.03594	0.63290	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	160.401
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00648	0.46429	0.23678	0.00278	0.00529	0.11124	0.11653	0.00529	0.03046	0.03575	409.811
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04881	0.04330	0.54137	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	149.811
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00595	0.48996	0.23863	0.00278	0.00529	0.11124	0.11653	0.00529	0.03046	0.03575	409.335
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01146	0.00865	0.12517	0.00000	0.00000	0.03805	0.03805	0.00000	0.00891	0.00891	35.6030
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00146	0.11257	0.05579	0.00065	0.00124	0.02573	0.02697	0.00124	0.00705	0.00830	96.1651
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00209	0.00158	0.02284	0.00000	0.00000	0.00694	0.00694	0.00000	0.00163	0.00163	5.89449
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00027	0.02054	0.01018	0.00012	0.00023	0.00470	0.00492	0.00023	0.00129	0.00151	15.9212

3.4. Grading 230kV GIS (2031)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09697	1.40671	5.38077	0.00821	0.01623	—	0.01623	0.01623	—	0.01623	881.439
Dust From Material Movement	—	—	—	—	—	0.05493	0.05493	—	0.00596	0.00596	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09697	1.40671	5.38077	0.00821	0.01623	—	0.01623	0.01623	—	0.01623	881.439
Dust From Material Movement	—	—	—	—	—	0.05493	0.05493	—	0.00596	0.00596	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04065	0.58966	2.25550	0.00344	0.00680	—	0.00680	0.00680	—	0.00680	369.480
Dust From Material Movement	—	—	—	—	—	0.02302	0.02302	—	0.00250	0.00250	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00742	0.10761	0.41163	0.00063	0.00124	—	0.00124	0.00124	—	0.00124	61.1716
Dust From Material Movement	—	—	—	—	—	0.00420	0.00420	—	0.00046	0.00046	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04661	0.02989	0.56985	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	155.629
Vendor	0.00125	0.05184	0.02706	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	48.1741
Hauling	0.00432	0.28881	0.14745	0.00185	0.00353	0.07416	0.07769	0.00353	0.02030	0.02383	257.473
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.04528	0.03682	0.48762	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	143.962
Vendor	0.00116	0.05462	0.02777	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	48.1477
Hauling	0.00397	0.30600	0.14868	0.00185	0.00353	0.07416	0.07769	0.00353	0.02030	0.02383	257.268
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01880	0.01290	0.20220	0.00000	0.00000	0.06792	0.06792	0.00000	0.01590	0.01590	61.0591
Vendor	0.00051	0.02252	0.01147	0.00016	0.00016	0.00581	0.00596	0.00016	0.00161	0.00176	20.1843
Hauling	0.00174	0.12531	0.06203	0.00078	0.00148	0.03061	0.03209	0.00148	0.00839	0.00987	107.872
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00343	0.00235	0.03690	0.00000	0.00000	0.01240	0.01240	0.00000	0.00290	0.00290	10.1090
Vendor	0.00009	0.00411	0.00209	0.00003	0.00003	0.00106	0.00109	0.00003	0.00029	0.00032	3.34174
Hauling	0.00032	0.02287	0.01132	0.00014	0.00027	0.00559	0.00586	0.00027	0.00153	0.00180	17.8595

3.5. Building 115kV (2029)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26021	3.51372	6.85653	0.01106	0.06299	—	0.06299	0.05908	—	0.05908	1,056.28
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26021	3.51372	6.85653	0.01106	0.06299	—	0.06299	0.05908	—	0.05908	1,056.28
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12476	1.68466	3.28738	0.00530	0.03020	—	0.03020	0.02833	—	0.02833	506.437
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02277	0.30745	0.59995	0.00097	0.00551	—	0.00551	0.00517	—	0.00517	83.8464
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08850	0.06289	1.10758	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	280.703
Vendor	0.00162	0.05695	0.02900	0.00037	0.00074	0.01409	0.01483	0.00037	0.00389	0.00426	51.5987
Hauling	0.00324	0.23215	0.11839	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.905
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.08542	0.07577	0.94739	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	262.170
Vendor	0.00153	0.06014	0.02980	0.00037	0.00074	0.01409	0.01483	0.00037	0.00389	0.00426	51.5495
Hauling	0.00298	0.24498	0.11931	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.668
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04095	0.03089	0.44724	0.00000	0.00000	0.13596	0.13596	0.00000	0.03182	0.03182	127.207
Vendor	0.00076	0.02821	0.01408	0.00018	0.00036	0.00664	0.00700	0.00018	0.00184	0.00202	24.7224
Hauling	0.00149	0.11492	0.05695	0.00067	0.00127	0.02626	0.02753	0.00127	0.00720	0.00847	98.1686
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00747	0.00564	0.08162	0.00000	0.00000	0.02481	0.02481	0.00000	0.00581	0.00581	21.0605
Vendor	0.00014	0.00515	0.00257	0.00003	0.00006	0.00121	0.00128	0.00003	0.00034	0.00037	4.09308
Hauling	0.00027	0.02097	0.01039	0.00012	0.00023	0.00479	0.00502	0.00023	0.00131	0.00155	16.2529

3.6. Building 115kV (2030)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26021	3.51372	6.85653	0.01106	0.06299	—	0.06299	0.05908	—	0.05908	1,056.28
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26021	3.51372	6.85653	0.01106	0.06299	—	0.06299	0.05908	—	0.05908	1,056.28
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10795	1.45775	2.84459	0.00459	0.02613	—	0.02613	0.02451	—	0.02451	438.223
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01970	0.26604	0.51914	0.00084	0.00477	—	0.00477	0.00447	—	0.00447	72.5528
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08619	0.05309	1.04338	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	276.145
Vendor	0.00125	0.05437	0.02785	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	49.9351
Hauling	0.00324	0.22368	0.11449	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	198.835
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.08233	0.06520	0.89585	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	258.059
Vendor	0.00116	0.05715	0.02860	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	49.8963
Hauling	0.00298	0.23651	0.11541	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	198.632
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03352	0.02641	0.36657	0.00000	0.00000	0.11764	0.11764	0.00000	0.02754	0.02754	107.212
Vendor	0.00050	0.02334	0.01170	0.00015	0.00015	0.00575	0.00590	0.00015	0.00159	0.00174	20.7045
Hauling	0.00129	0.09648	0.04766	0.00058	0.00110	0.02273	0.02382	0.00110	0.00623	0.00733	82.4358
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00612	0.00482	0.06690	0.00000	0.00000	0.02147	0.02147	0.00000	0.00503	0.00503	17.7501
Vendor	0.00009	0.00426	0.00214	0.00003	0.00003	0.00105	0.00108	0.00003	0.00029	0.00032	3.42786
Hauling	0.00024	0.01761	0.00870	0.00011	0.00020	0.00415	0.00435	0.00020	0.00114	0.00134	13.6482

3.7. Building 230kV GIS (2032)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24161	2.86149	5.94342	0.00940	0.06152	—	0.06152	0.05755	—	0.05755	930.402
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24161	2.86149	5.94342	0.00940	0.06152	—	0.06152	0.05755	—	0.05755	930.402
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17305	2.04952	4.25693	0.00673	0.04406	—	0.04406	0.04122	—	0.04122	666.393
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03158	0.37404	0.77689	0.00123	0.00804	—	0.00804	0.00752	—	0.00752	110.329
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07925	0.04252	0.94361	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	268.544
Vendor	0.00121	0.04968	0.02624	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	46.5466
Hauling	0.00216	0.14057	0.07028	0.00093	0.00176	0.03708	0.03884	0.00176	0.01015	0.01192	124.854
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.07616	0.05463	0.80410	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	248.451
Vendor	0.00116	0.05251	0.02657	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	46.5309
Hauling	0.00198	0.14828	0.07086	0.00093	0.00176	0.03708	0.03884	0.00176	0.01015	0.01192	124.772
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05400	0.03802	0.57046	0.00000	0.00000	0.20310	0.20310	0.00000	0.04754	0.04754	180.053
Vendor	0.00087	0.03693	0.01878	0.00027	0.00027	0.00992	0.01019	0.00027	0.00275	0.00301	33.3273
Hauling	0.00148	0.10431	0.05050	0.00066	0.00126	0.02616	0.02742	0.00126	0.00717	0.00843	89.3781
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00985	0.00694	0.10411	0.00000	0.00000	0.03707	0.03707	0.00000	0.00868	0.00868	29.8098
Vendor	0.00016	0.00674	0.00343	0.00005	0.00005	0.00181	0.00186	0.00005	0.00050	0.00055	5.51771
Hauling	0.00027	0.01904	0.00922	0.00012	0.00023	0.00477	0.00500	0.00023	0.00131	0.00154	14.7976

3.8. Building 230kV GIS (2033)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24161	2.86149	5.94342	0.00940	0.06152	—	0.06152	0.05755	—	0.05755	930.402

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04255	0.50398	1.04679	0.00166	0.01083	—	0.01083	0.01014	—	0.01014	163.867
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00777	0.09198	0.19104	0.00030	0.00198	—	0.00198	0.00185	—	0.00185	27.1301
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07307	0.05386	0.77447	0.00000	0.00000	0.28933	0.28933	0.00000	0.06782	0.06782	245.322
Vendor	0.00116	0.05072	0.02579	0.00037	0.00037	0.01409	0.01446	0.00037	0.00389	0.00426	44.8667
Hauling	0.00198	0.14357	0.06826	0.00093	0.00176	0.03708	0.03884	0.00176	0.01015	0.01192	121.225
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01273	0.00935	0.13388	0.00000	0.00000	0.04994	0.04994	0.00000	0.01169	0.01169	43.7100
Vendor	0.00021	0.00871	0.00448	0.00007	0.00007	0.00244	0.00251	0.00007	0.00068	0.00074	7.90143

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.00037	0.02482	0.01196	0.00016	0.00031	0.00643	0.00674	0.00031	0.00176	0.00207	21.3544
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00232	0.00171	0.02443	0.00000	0.00000	0.00911	0.00911	0.00000	0.00213	0.00213	7.23669
Vendor	0.00004	0.00159	0.00082	0.00001	0.00001	0.00045	0.00046	0.00001	0.00012	0.00014	1.30817
Hauling	0.00007	0.00453	0.00218	0.00003	0.00006	0.00117	0.00123	0.00006	0.00032	0.00038	3.53546

3.9. Paving (2033)

3.9.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04096	0.35776	2.11062	0.00288	0.00886	—	0.00886	0.00859	—	0.00859	303.915
Paving	0.00000	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00729	0.06371	0.37586	0.00051	0.00158	—	0.00158	0.00153	—	0.00153	54.1218
Paving	0.00000	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00133	0.01163	0.06860	0.00009	0.00029	—	0.00029	0.00028	—	0.00028	8.96048
Paving	0.00000	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02585	0.01431	0.31159	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	90.8798
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00441	0.00324	0.04641	0.00000	0.00000	0.01731	0.01731	0.00000	0.00405	0.00405	15.1528
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00081	0.00059	0.00847	0.00000	0.00000	0.00316	0.00316	0.00000	0.00074	0.00074	2.50872

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10. Architectural Coating (2030)

3.10.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00572	0.17472	0.26048	0.00041	0.00064	—	0.00064	0.00064	—	0.00064	36.7584
Architectural Coatings	42.9631	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00067	0.02058	0.03069	0.00005	0.00007	—	0.00007	0.00007	—	0.00007	4.33044
Architectural Coatings	5.06141	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	0.00012	0.00376	0.00560	0.00001	0.00001	—	0.00001	0.00001	—	0.00001	0.71695
Architectural Coatings	0.92371	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01231	0.00758	0.14905	0.00000	0.00000	0.04133	0.04133	0.00000	0.00969	0.00969	39.4493
Vendor	0.00013	0.00544	0.00278	0.00004	0.00004	0.00141	0.00145	0.00004	0.00039	0.00043	4.99351
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00136	0.00107	0.01487	0.00000	0.00000	0.00477	0.00477	0.00000	0.00112	0.00112	4.34916
Vendor	0.00001	0.00066	0.00033	< 0.000005	< 0.000005	0.00016	0.00017	< 0.000005	0.00005	0.00005	0.58793
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00025	0.00020	0.00271	0.00000	0.00000	0.00087	0.00087	0.00000	0.00020	0.00020	0.72005
Vendor	< 0.000005	0.00012	0.00006	< 0.000005	< 0.000005	0.00003	0.00003	< 0.000005	0.00001	0.00001	0.09734

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11. Architectural Coating 230kV GIS (2033)

3.11.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00572	0.17472	0.26048	0.00041	0.00064	—	0.00064	0.00064	—	0.00064	36.7590
Architectural Coatings	43.6913	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00067	0.02058	0.03069	0.00005	0.00007	—	0.00007	0.00007	—	0.00007	4.33051
Architectural Coatings	5.14719	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00012	0.00376	0.00560	0.00001	0.00001	—	0.00001	0.00001	—	0.00001	0.71697

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Architectural Coatings	0.93936	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/2/2028	10/31/2028	5.00000	22.0000	Entire Site
Grading 115kV	Grading	11/1/2028	4/30/2029	5.00000	129.000	Grading 115kV GIS
Grading 230kV GIS	Grading	6/2/2031	12/31/2031	5.00000	153.000	Grading 230kV GIS
Building 115kV	Building Construction	5/1/2029	7/31/2030	5.00000	326.000	Build 115kV GIS
Building 230kV GIS	Building Construction	1/1/2032	3/31/2033	5.00000	325.000	Build 230kV GIS

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Paving	Paving	6/1/2033	8/31/2033	5.00000	65.0000	Paving Site
Architectural Coating	Architectural Coating	8/2/2030	9/30/2030	5.00000	43.0000	Coating 115kV GIS
Architectural Coating 230kV GIS	Architectural Coating	4/1/2033	5/31/2033	5.00000	43.0000	Coat 230kV GIS

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	1.000000	0.70000	84.0000	0.37000
Site Preparation	Forklifts	Diesel	Tier 4 Final	1.000000	0.70000	82.0000	0.20000
Site Preparation	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	1.60000	82.0000	0.42000
Grading 115kV	Graders	Diesel	Tier 4 Final	1.000000	2.50000	148.000	0.41000
Grading 115kV	Excavators	Diesel	Tier 4 Final	2.00000	5.00000	36.0000	0.38000
Grading 115kV	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	2.50000	367.000	0.40000
Grading 115kV	Welders	Diesel	Tier 4 Final	1.000000	1.20000	46.0000	0.45000
Grading 115kV	Rollers	Diesel	Tier 4 Final	2.00000	1.90000	36.0000	0.38000
Grading 115kV	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	3.70000	82.0000	0.42000
Grading 115kV	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	0.10000	376.000	0.38000
Grading 230kV GIS	Graders	Diesel	Tier 4 Final	1.000000	2.10000	148.000	0.41000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading 230kV GIS	Excavators	Diesel	Tier 4 Final	2.00000	4.20000	36.0000	0.38000
Grading 230kV GIS	Rubber Tired Loaders	Diesel	Tier 4 Final	1.000000	2.10000	367.000	0.40000
Grading 230kV GIS	Welders	Diesel	Tier 4 Final	1.000000	1.000000	46.0000	0.45000
Grading 230kV GIS	Rollers	Diesel	Tier 4 Final	2.00000	1.60000	36.0000	0.38000
Grading 230kV GIS	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	0.10000	376.000	0.38000
Grading 230kV GIS	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	3.10000	82.0000	0.42000
Building 115kV	Forklifts	Diesel	Tier 4 Final	2.00000	2.50000	82.0000	0.20000
Building 115kV	Cranes	Diesel	Tier 4 Final	1.000000	0.20000	367.000	0.29000
Building 115kV	Welders	Diesel	Tier 4 Final	3.00000	2.00000	46.0000	0.45000
Building 115kV	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	2.00000	2.50000	84.0000	0.37000
Building 115kV	Generator Sets	Diesel	Tier 4 Final	2.00000	6.10000	14.0000	0.74000
Building 115kV	Aerial Lifts	Diesel	Tier 4 Final	6.00000	2.50000	46.0000	0.31000
Building 115kV	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	0.20000	82.0000	0.42000
Building 115kV	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	0.50000	376.000	0.38000
Building 115kV	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	0.70000	82.0000	0.42000
Building 115kV	Other General Industrial Equipment	Diesel	Tier 4 Final	1.000000	0.70000	35.0000	0.34000
Building 115kV	Other Material Handling Equipment	Diesel	Tier 4 Final	1.000000	0.70000	93.0000	0.40000
Building 230kV GIS	Forklifts	Diesel	Tier 4 Final	2.00000	2.50000	82.0000	0.20000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building 230kV GIS	Generator Sets	Diesel	Tier 4 Final	2.00000	6.20000	14.0000	0.74000
Building 230kV GIS	Cranes	Diesel	Tier 4 Final	1.000000	0.20000	367.000	0.29000
Building 230kV GIS	Welders	Diesel	Tier 4 Final	3.00000	0.20000	46.0000	0.45000
Building 230kV GIS	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	2.00000	2.50000	84.0000	0.37000
Building 230kV GIS	Aerial Lifts	Diesel	Tier 4 Final	6.00000	2.50000	46.0000	0.31000
Building 230kV GIS	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	0.50000	82.0000	0.42000
Building 230kV GIS	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	0.70000	82.0000	0.42000
Building 230kV GIS	Other General Industrial Equipment	Diesel	Tier 4 Final	1.000000	0.70000	35.0000	0.34000
Building 230kV GIS	Other Material Handling Equipment	Diesel	Tier 4 Final	1.000000	0.70000	93.0000	0.40000
Building 230kV GIS	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	0.50000	376.000	0.38000
Paving	Pavers	Diesel	Tier 4 Final	2.00000	1.70000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00000	1.70000	89.0000	0.36000
Paving	Rollers	Diesel	Tier 4 Final	1.000000	1.70000	36.0000	0.38000
Paving	Cement and Mortar Mixers	Diesel	Tier 4 Final	1.000000	1.70000	10.00000	0.56000
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.000000	0.90000	37.0000	0.48000
Architectural Coating	Aerial Lifts	Diesel	Tier 4 Final	1.000000	0.90000	46.0000	0.31000
Architectural Coating 230kV GIS	Air Compressors	Diesel	Tier 4 Final	1.000000	0.90000	37.0000	0.48000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Architectural Coating 230kV GIS	Aerial Lifts	Diesel	Tier 4 Final	1.000000	0.90000	46.0000	0.31000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	10.00000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading 115kV	Worker	20.0000	11.7000	LDA,LDT1,LDT2
Grading 115kV	Vendor	—	8.40000	HHDT,MHDT
Grading 115kV	Hauling	6.00000	20.0000	HHDT
Grading 115kV	Onsite truck	—	—	HHDT
Grading 230kV GIS	Worker	20.0000	11.7000	LDA,LDT1,LDT2
Grading 230kV GIS	Vendor	2.00000	8.40000	HHDT,MHDT
Grading 230kV GIS	Hauling	4.00000	20.0000	HHDT
Grading 230kV GIS	Onsite truck	—	—	HHDT
Building 115kV	Worker	35.0000	11.7000	LDA,LDT1,LDT2
Building 115kV	Vendor	2.00000	8.40000	HHDT,MHDT
Building 115kV	Hauling	3.00000	20.0000	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building 115kV	Onsite truck	—	—	HHDT
Building 230kV GIS	Worker	35.0000	11.7000	LDA,LDT1,LDT2
Building 230kV GIS	Vendor	2.00000	8.40000	HHDT,MHDT
Building 230kV GIS	Hauling	2.00000	20.0000	HHDT
Building 230kV GIS	Onsite truck	—	—	HHDT
Paving	Worker	12.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	0.00000	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	5.00000	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.20000	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Architectural Coating 230kV GIS	Worker	—	11.7000	LDA,LDT1,LDT2
Architectural Coating 230kV GIS	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating 230kV GIS	Hauling	0.00000	20.0000	HHDT
Architectural Coating 230kV GIS	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	265,643	88,547.6	—
Architectural Coating 230kV GIS	0.00000	0.00000	270,145	90,048.4	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00000	0.00000	0.00000	0.00000	0.00000
Grading 115kV	0.00000	15,600.0	20.1563	0.00000	0.00000
Grading 230kV GIS	0.00000	3,765.00	20.0813	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00000	203.983	0.03300	0.00400
2029	0.00000	203.983	0.03300	0.00400
2030	0.00000	203.983	0.03300	0.00400
2031	0.00000	203.983	0.03300	0.00400
2032	0.00000	203.983	0.03300	0.00400
2033	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4500	annual days of extreme heat
Extreme Precipitation	2.60000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6478
AQ-PM	24.6049
AQ-DPM	83.8830
Drinking Water	40.5021
Lead Risk Housing	1.87776
Pesticides	0.00000

Indicator	Result for Project Census Tract
Toxic Releases	39.4974
Traffic	90.1250
Effect Indicators	—
CleanUp Sites	99.7200
Groundwater	94.1557
Haz Waste Facilities/Generators	96.9821
Impaired Water Bodies	43.7841
Solid Waste	80.0916
Sensitive Population	—
Asthma	11.6152
Cardio-vascular	29.6486
Low Birth Weights	84.8473
Socioeconomic Factor Indicators	—
Education	2.30321
Housing	15.8555
Linguistic	60.6171
Poverty	3.32915
Unemployment	19.5862

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	94.63621199
Employed	86.15424099
Median HI	96.26587964
Education	—
Bachelor's or higher	99.98716797
High school enrollment	100
Preschool enrollment	59.2839728
Transportation	—
Auto Access	77.83908636
Active commuting	49.44180675
Social	—
2-parent households	91.67201335
Voting	67.88143205
Neighborhood	—
Alcohol availability	92.35211087
Park access	57.03836777
Retail density	90.81226742
Supermarket access	12.97318106
Tree canopy	80.11035545
Housing	—

Indicator	Result for Project Census Tract
Homeownership	13.40947004
Housing habitability	54.69010651
Low-inc homeowner severe housing cost burden	38.62440652
Low-inc renter severe housing cost burden	87.73258052
Uncrowded housing	51.23829077
Health Outcomes	—
Insured adults	99.67919928
Arthritis	0.0
Asthma ER Admissions	82.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	21.0
Cognitively Disabled	94.6
Physically Disabled	99.3
Heart Attack ER Admissions	68.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0

Indicator	Result for Project Census Tract
Obesity	0.0
Pedestrian Injuries	59.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	14.8
Elderly	97.8
English Speaking	33.7
Foreign-born	99.3
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	19.0
Traffic Density	85.9
Traffic Access	50.1
Other Indices	—

Indicator	Result for Project Census Tract
Hardship	1.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0000
Healthy Places Index Score for Project Location (b)	96.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Site is 9.7 acres, but only 8.2 acres will be disturbed during construction.
Construction: Construction Phases	Applicant proposed schedule.
Construction: Off-Road Equipment	Applicant supplied data.
Construction: Off-Road Equipment EF	Manual factors fro App G-11 entered.
Construction: Trips and VMT	Applicant best estimates.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	8.20000	9.70000
Landscape Area	sq. ft	—	5,000.00

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	10/30/2028	10/2/2028
Site Preparation	Site Preparation	End Date	11/13/2028	10/31/2028
Site Preparation	Site Preparation	Work Days per Phase	10.00000	22.0000

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Description	—	Entire Site
Paving	Paving	Start Date	11/1/2029	6/1/2033
Paving	Paving	End Date	11/29/2029	8/31/2033
Paving	Paving	Work Days per Phase	20.0000	65.0000
Paving	Paving	Description	—	Paving Site
Architectural Coating	Architectural Coating	Start Date	11/30/2029	8/2/2030
Architectural Coating	Architectural Coating	End Date	12/28/2029	9/30/2030
Architectural Coating	Architectural Coating	Work Days per Phase	20.0000	43.0000
Architectural Coating	Architectural Coating	Description	—	Coating 115kV GIS

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Site Preparation	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Site Preparation	Tractors/Loaders/Backhoes	Number per Day	4.00000	1.000000
Site Preparation	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	0.70000
Grading 115kV	Graders	Engine Tier	Average	Tier 4 Final
Grading 115kV	Graders	Hours Per Day	8.00000	2.50000
Grading 115kV	Excavators	Engine Tier	Average	Tier 4 Final
Grading 115kV	Excavators	Number per Day	1.000000	2.00000
Grading 115kV	Excavators	Hours Per Day	8.00000	5.00000
Grading 115kV	Rubber Tired Loaders	Engine Tier	Average	Tier 4 Final

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Grading 115kV	Rubber Tired Loaders	Hours Per Day	8.00000	2.50000
Grading 230kV GIS	Graders	Engine Tier	Average	Tier 4 Final
Grading 230kV GIS	Graders	Hours Per Day	8.00000	2.10000
Grading 230kV GIS	Excavators	Engine Tier	Average	Tier 4 Final
Grading 230kV GIS	Excavators	Number per Day	1.000000	2.00000
Grading 230kV GIS	Excavators	Hours Per Day	8.00000	4.20000
Grading 230kV GIS	Rubber Tired Loaders	Engine Tier	Average	Tier 4 Final
Grading 230kV GIS	Rubber Tired Loaders	Hours Per Day	8.00000	2.10000
Building 115kV	Forklifts	Engine Tier	Average	Tier 4 Final
Building 115kV	Forklifts	Number per Day	3.00000	2.00000
Building 115kV	Forklifts	Hours Per Day	8.00000	2.50000
Building 115kV	Cranes	Engine Tier	Average	Tier 4 Final
Building 115kV	Cranes	Hours Per Day	7.00000	0.20000
Building 115kV	Welders	Engine Tier	Average	Tier 4 Final
Building 115kV	Welders	Number per Day	1.000000	3.00000
Building 115kV	Welders	Hours Per Day	8.00000	2.00000
Building 115kV	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Building 115kV	Tractors/Loaders/Backhoes	Number per Day	3.00000	2.00000
Building 115kV	Tractors/Loaders/Backhoes	Hours Per Day	7.00000	2.50000
Building 230kV GIS	Forklifts	Engine Tier	Average	Tier 4 Final
Building 230kV GIS	Forklifts	Number per Day	3.00000	2.00000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Building 230kV GIS	Forklifts	Hours Per Day	8.00000	2.50000
Building 230kV GIS	Generator Sets	Engine Tier	Average	Tier 4 Final
Building 230kV GIS	Generator Sets	Number per Day	1.000000	2.00000
Building 230kV GIS	Generator Sets	Hours Per Day	8.00000	6.20000
Building 230kV GIS	Cranes	Engine Tier	Average	Tier 4 Final
Building 230kV GIS	Cranes	Hours Per Day	7.00000	0.20000
Building 230kV GIS	Welders	Engine Tier	Average	Tier 4 Final
Building 230kV GIS	Welders	Number per Day	1.000000	3.00000
Building 230kV GIS	Welders	Hours Per Day	8.00000	0.20000
Building 230kV GIS	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final
Building 230kV GIS	Tractors/Loaders/Backhoes	Number per Day	3.00000	2.00000
Building 230kV GIS	Tractors/Loaders/Backhoes	Hours Per Day	7.00000	2.50000
Paving	Pavers	Engine Tier	Average	Tier 4 Final
Paving	Pavers	Hours Per Day	8.00000	1.70000
Paving	Paving Equipment	Engine Tier	Average	Tier 4 Final
Paving	Paving Equipment	Hours Per Day	8.00000	1.70000
Paving	Rollers	Engine Tier	Average	Tier 4 Final
Paving	Rollers	Number per Day	2.00000	1.000000
Paving	Rollers	Hours Per Day	8.00000	1.70000
Architectural Coating	Air Compressors	Engine Tier	Average	Tier 4 Final
Architectural Coating	Air Compressors	Hours Per Day	6.00000	0.90000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Architectural Coating 230kV GIS	Air Compressors	Engine Tier	Average	Tier 4 Final
Architectural Coating 230kV GIS	Air Compressors	Hours Per Day	6.00000	0.90000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Site Preparation	Worker	One-Way Trips per Day	7.50000	10.00000
Grading 115kV	Worker	One-Way Trips per Day	22.5000	20.0000
Grading 115kV	Hauling	One-Way Trips per Day	15.1163	6.00000
Grading 230kV GIS	Worker	One-Way Trips per Day	22.5000	20.0000
Grading 230kV GIS	Hauling	One-Way Trips per Day	3.07843	4.00000
Building 115kV	Worker	One-Way Trips per Day	150.021	35.0000
Building 115kV	Vendor	One-Way Trips per Day	58.5438	2.00000
Building 115kV	Hauling	One-Way Trips per Day	0.00000	3.00000
Building 230kV GIS	Worker	One-Way Trips per Day	150.021	35.0000
Building 230kV GIS	Vendor	One-Way Trips per Day	58.5438	2.00000
Building 230kV GIS	Hauling	One-Way Trips per Day	0.00000	2.00000
Paving	Worker	One-Way Trips per Day	15.0000	12.0000
Architectural Coating	Worker	One-Way Trips per Day	60.0083	5.00000

Trimble UG Linear Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Trimble UG Linear
Construction Start Date	1/1/2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00000
Precipitation (days)	31.0000
Location	37.38153846294337, -121.92597041055416
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1882
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	1.50000	Mile	5.17000	0.00000	—	—	—	UG T-Line Trench

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.97419	11.4807	37.9944	0.06969	0.17327	1.22182	1.39509	0.16957	0.30978	0.47935	8,540.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59674	6.51277	26.7456	0.04326	0.09538	0.69718	0.79256	0.09442	0.17264	0.26706	5,247.85
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.29808	3.34085	12.4107	0.02239	0.05128	0.36771	0.41899	0.05058	0.09280	0.14338	2,744.21
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05440	0.60970	2.26495	0.00409	0.00936	0.06711	0.07647	0.00923	0.01694	0.02617	454.335

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.97419	11.4807	37.9944	0.06969	0.17327	1.22182	1.39509	0.16957	0.30978	0.47935	8,540.04
2029	0.17869	1.35082	3.96385	0.00729	0.04242	0.20367	0.24608	0.03912	0.05111	0.09023	930.029
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.49009	5.34675	21.2636	0.03647	0.08197	0.57318	0.65515	0.08101	0.14357	0.22458	4,428.67
2029	0.59674	6.51277	26.7456	0.04326	0.09538	0.69718	0.79256	0.09442	0.17264	0.26706	5,247.85
2030	0.17495	1.35655	3.87234	0.00729	0.04168	0.20367	0.24534	0.03912	0.05111	0.09023	910.973
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.29808	3.34085	12.4107	0.02239	0.05128	0.36771	0.41899	0.05058	0.09280	0.14338	2,744.21
2029	0.17508	1.58049	5.48188	0.00961	0.03651	0.19988	0.23640	0.03448	0.05000	0.08448	1,187.41
2030	0.02254	0.17438	0.49932	0.00094	0.00538	0.02583	0.03121	0.00505	0.00648	0.01153	117.691
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.05440	0.60970	2.26495	0.00409	0.00936	0.06711	0.07647	0.00923	0.01694	0.02617	454.335
2029	0.03195	0.28844	1.00044	0.00175	0.00666	0.03648	0.04314	0.00629	0.00913	0.01542	196.589
2030	0.00411	0.03182	0.09113	0.00017	0.00098	0.00471	0.00570	0.00092	0.00118	0.00210	19.4850

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.72522	8.75174	34.1775	0.05471	0.14474	0.00270	0.14744	0.14122	0.00041	0.14163	5,656.47
2029	0.13554	0.97872	3.32859	0.00516	0.03829	0.00000	0.03829	0.03573	0.00000	0.03573	505.635
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.36865	4.15585	19.5943	0.03049	0.07056	0.00270	0.07326	0.06960	0.00041	0.07001	3,215.77
2029	0.44968	5.33738	24.7424	0.03727	0.08398	0.00270	0.08667	0.08302	0.00041	0.08342	3,953.37
2030	0.13554	0.97872	3.32859	0.00516	0.03829	0.00000	0.03829	0.03573	0.00000	0.03573	505.639
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.22245	2.51359	11.3461	0.01808	0.04306	0.00113	0.04419	0.04238	0.00017	0.04255	1,902.71
2029	0.13362	1.20546	4.91602	0.00756	0.03257	0.00037	0.03294	0.03096	0.00006	0.03102	776.887
2030	0.01751	0.12641	0.42992	0.00067	0.00495	0.00000	0.00495	0.00462	0.00000	0.00462	65.3076
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.04060	0.45873	2.07066	0.00330	0.00786	0.00021	0.00806	0.00773	0.00003	0.00777	315.016
2029	0.02439	0.22000	0.89717	0.00138	0.00594	0.00007	0.00601	0.00565	0.00001	0.00566	128.622
2030	0.00319	0.02307	0.07846	0.00012	0.00090	0.00000	0.00090	0.00084	0.00000	0.00084	10.8124

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.24896	2.72898	3.81690	0.01497	0.02853	1.21912	1.24765	0.02835	0.30937	0.33772	2,883.57
2029	0.04315	0.37210	0.63525	0.00213	0.00413	0.20367	0.20780	0.00339	0.05111	0.05450	424.394
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.12145	1.19090	1.66928	0.00599	0.01141	0.57049	0.58189	0.01141	0.14317	0.15457	1,212.90
2029	0.14706	1.17539	2.00323	0.00599	0.01141	0.69448	0.70589	0.01141	0.17223	0.18364	1,294.48
2030	0.03941	0.37783	0.54375	0.00213	0.00339	0.20367	0.20705	0.00339	0.05111	0.05450	405.334
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.07563	0.82726	1.06456	0.00432	0.00822	0.36658	0.37480	0.00820	0.09263	0.10083	841.493
2029	0.04146	0.37503	0.56586	0.00205	0.00395	0.19951	0.20346	0.00352	0.04995	0.05347	410.524
2030	0.00504	0.04797	0.06940	0.00028	0.00044	0.02583	0.02626	0.00044	0.00648	0.00692	52.3832
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.01380	0.15097	0.19428	0.00079	0.00150	0.06690	0.06840	0.00150	0.01690	0.01840	139.319
2029	0.00757	0.06844	0.10327	0.00037	0.00072	0.03641	0.03713	0.00064	0.00912	0.00976	67.9670
2030	0.00092	0.00875	0.01267	0.00005	0.00008	0.00471	0.00479	0.00008	0.00118	0.00126	8.67263

3. Construction Emissions Details

3.1. Site Prep (2028)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15750	0.81899	8.18991	0.01540	0.03150	—	0.03150	0.03150	—	0.03150	1,672.99
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01122	0.05834	0.58339	0.00110	0.00224	—	0.00224	0.00224	—	0.00224	119.172
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00205	0.01065	0.10647	0.00020	0.00041	—	0.00041	0.00041	—	0.00041	19.7303
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03859	0.03667	0.42878	0.00000	0.00000	0.12400	0.12400	0.00000	0.02906	0.02906	114.244
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01146	0.67603	0.32523	0.00370	0.00705	0.14832	0.15537	0.00705	0.04061	0.04766	561.705
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00273	0.00229	0.03030	0.00000	0.00000	0.00866	0.00866	0.00000	0.00203	0.00203	8.23604
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00084	0.04741	0.02305	0.00026	0.00050	0.01040	0.01091	0.00050	0.00285	0.00336	40.0305
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00050	0.00042	0.00553	0.00000	0.00000	0.00158	0.00158	0.00000	0.00037	0.00037	1.36357
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00015	0.00865	0.00421	0.00005	0.00009	0.00190	0.00199	0.00009	0.00052	0.00061	6.62751

3.2. Trenchless Install (2028)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25365	3.37240	9.02880	0.01520	0.05601	—	0.05601	0.05345	—	0.05345	1,459.56
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02780	0.36958	0.98946	0.00167	0.00614	—	0.00614	0.00586	—	0.00586	159.952
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00507	0.06745	0.18058	0.00030	0.00112	—	0.00112	0.00107	—	0.00107	26.4819
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05322	0.03638	0.67047	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	163.167
Vendor	0.00081	0.02978	0.01492	0.00019	0.00037	0.00705	0.00742	0.00019	0.00195	0.00213	26.5138
Hauling	0.01825	0.96298	0.48387	0.00556	0.01058	0.22248	0.23306	0.01058	0.06091	0.07149	843.639
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00559	0.00470	0.06216	0.00000	0.00000	0.01776	0.01776	0.00000	0.00416	0.00416	16.8944
Vendor	0.00009	0.00339	0.00165	0.00002	0.00004	0.00076	0.00080	0.00002	0.00021	0.00023	2.90332
Hauling	0.00194	0.10942	0.05320	0.00061	0.00116	0.02401	0.02517	0.00116	0.00658	0.00774	92.3782
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00102	0.00086	0.01134	0.00000	0.00000	0.00324	0.00324	0.00000	0.00076	0.00076	2.79707
Vendor	0.00002	0.00062	0.00030	< 0.000005	0.00001	0.00014	0.00015	< 0.000005	0.00004	0.00004	0.48068
Hauling	0.00035	0.01997	0.00971	0.00011	0.00021	0.00438	0.00459	0.00021	0.00120	0.00141	15.2943

3.3. Cable Install (2029)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13554	0.97872	3.32859	0.00516	0.03829	—	0.03829	0.03573	—	0.03573	505.635
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13554	0.97872	3.32859	0.00516	0.03829	—	0.03829	0.03573	—	0.03573	505.635
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07824	0.56501	1.92160	0.00298	0.02210	—	0.02210	0.02063	—	0.02063	291.903
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01428	0.10311	0.35069	0.00054	0.00403	—	0.00403	0.00376	—	0.00376	48.3278

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03667	0.02605	0.45885	0.00000	0.00000	0.11986	0.11986	0.00000	0.02810	0.02810	116.291
Vendor	0.00325	0.11390	0.05801	0.00074	0.00148	0.02818	0.02967	0.00074	0.00779	0.00853	103.197
Hauling	0.00324	0.23215	0.11839	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.905
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03539	0.03139	0.39249	0.00000	0.00000	0.11986	0.11986	0.00000	0.02810	0.02810	108.613
Vendor	0.00307	0.12028	0.05960	0.00074	0.00148	0.02818	0.02967	0.00074	0.00779	0.00853	103.099
Hauling	0.00298	0.24498	0.11931	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	204.668
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02043	0.01541	0.22310	0.00000	0.00000	0.06782	0.06782	0.00000	0.01588	0.01588	63.4550
Vendor	0.00182	0.06792	0.03390	0.00043	0.00086	0.01600	0.01685	0.00043	0.00443	0.00485	59.5356
Hauling	0.00179	0.13837	0.06857	0.00080	0.00153	0.03162	0.03315	0.00153	0.00867	0.01020	118.203
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00373	0.00281	0.04072	0.00000	0.00000	0.01238	0.01238	0.00000	0.00290	0.00290	10.5057
Vendor	0.00033	0.01240	0.00619	0.00008	0.00016	0.00292	0.00308	0.00008	0.00081	0.00089	9.85679
Hauling	0.00033	0.02525	0.01251	0.00015	0.00028	0.00577	0.00605	0.00028	0.00158	0.00186	19.5698

3.4. Cable Install (2030)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13554	0.97872	3.32859	0.00516	0.03829	—	0.03829	0.03573	—	0.03573	505.639
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01751	0.12641	0.42992	0.00067	0.00495	—	0.00495	0.00462	—	0.00462	65.3076
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00319	0.02307	0.07846	0.00012	0.00090	—	0.00090	0.00084	—	0.00084	10.8124
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03411	0.02701	0.37114	0.00000	0.00000	0.11986	0.11986	0.00000	0.02810	0.02810	106.910
Vendor	0.00233	0.11431	0.05720	0.00074	0.00074	0.02818	0.02892	0.00074	0.00779	0.00853	99.7926
Hauling	0.00298	0.23651	0.11541	0.00139	0.00265	0.05562	0.05827	0.00265	0.01523	0.01787	198.632
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00432	0.00341	0.04728	0.00000	0.00000	0.01517	0.01517	0.00000	0.00355	0.00355	13.8277
Vendor	0.00031	0.01453	0.00728	0.00010	0.00010	0.00358	0.00367	0.00010	0.00099	0.00109	12.8915
Hauling	0.00040	0.03003	0.01484	0.00018	0.00034	0.00707	0.00742	0.00034	0.00194	0.00228	25.6640
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00079	0.00062	0.00863	0.00000	0.00000	0.00277	0.00277	0.00000	0.00065	0.00065	2.28934
Vendor	0.00006	0.00265	0.00133	0.00002	0.00002	0.00065	0.00067	0.00002	0.00018	0.00020	2.13433
Hauling	0.00007	0.00548	0.00271	0.00003	0.00006	0.00129	0.00135	0.00006	0.00035	0.00042	4.24896

3.5. Paving (2029)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08110	1.18242	5.14832	0.00679	0.01355	—	0.01355	0.01355	—	0.01355	737.472
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00489	0.07127	0.31031	0.00041	0.00082	—	0.00082	0.00082	—	0.00082	44.4504
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00089	0.01301	0.05663	0.00007	0.00015	—	0.00015	0.00015	—	0.00015	7.35927
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03661	0.03247	0.40603	0.00000	0.00000	0.12400	0.12400	0.00000	0.02906	0.02906	112.358
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00221	0.00166	0.02410	0.00000	0.00000	0.00733	0.00733	0.00000	0.00171	0.00171	6.85358
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00040	0.00030	0.00440	0.00000	0.00000	0.00134	0.00134	0.00000	0.00031	0.00031	1.13469
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Vault Installation (2028)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10293	1.22348	5.55444	0.00903	0.01817	—	0.01817	0.01817	—	0.01817	981.137
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10293	1.22348	5.55444	0.00903	0.01817	—	0.01817	0.01817	—	0.01817	981.137
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02905	0.34526	1.56742	0.00255	0.00513	—	0.00513	0.00513	—	0.00513	276.869
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00530	0.06301	0.28605	0.00047	0.00094	—	0.00094	0.00094	—	0.00094	45.8388
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.03991	0.02728	0.50285	0.00000	0.00000	0.12400	0.12400	0.00000	0.02906	0.02906	122.375
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01065	0.56174	0.28226	0.00324	0.00617	0.12978	0.13595	0.00617	0.03553	0.04170	492.123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03859	0.03667	0.42878	0.00000	0.00000	0.12400	0.12400	0.00000	0.02906	0.02906	114.244
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01003	0.59152	0.28457	0.00324	0.00617	0.12978	0.13595	0.00617	0.03553	0.04170	491.492
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01080	0.00907	0.12005	0.00000	0.00000	0.03429	0.03429	0.00000	0.00803	0.00803	32.6274
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00292	0.16435	0.07991	0.00091	0.00174	0.03607	0.03781	0.00174	0.00989	0.01163	138.760
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00197	0.00166	0.02191	0.00000	0.00000	0.00626	0.00626	0.00000	0.00147	0.00147	5.40184
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00053	0.02999	0.01458	0.00017	0.00032	0.00658	0.00690	0.00032	0.00180	0.00212	22.9733

3.7. Trench/Duct Banks (2028)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36865	4.15585	19.5943	0.03049	0.07056	—	0.07056	0.06960	—	0.06960	3,215.77
Dust From Material Movement	—	—	—	—	—	0.00270	0.00270	—	0.00041	0.00041	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36865	4.15585	19.5943	0.03049	0.07056	—	0.07056	0.06960	—	0.06960	3,215.77
Dust From Material Movement	—	—	—	—	—	0.00270	0.00270	—	0.00041	0.00041	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15438	1.74042	8.20583	0.01277	0.02955	—	0.02955	0.02915	—	0.02915	1,346.72
Dust From Material Movement	—	—	—	—	—	0.00113	0.00113	—	0.00017	0.00017	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02818	0.31763	1.49756	0.00233	0.00539	—	0.00539	0.00532	—	0.00532	222.965

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Dust From Material Movement	—	—	—	—	—	0.00021	0.00021	—	0.00003	0.00003	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10644	0.07275	1.34094	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	326.334
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01968	1.03806	0.52160	0.00599	0.01141	0.23983	0.25123	0.01141	0.06566	0.07707	909.418
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10291	0.09780	1.14341	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	304.651
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01854	1.09310	0.52588	0.00599	0.01141	0.23983	0.25123	0.01141	0.06566	0.07707	908.252
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04273	0.03590	0.47508	0.00000	0.00000	0.13572	0.13572	0.00000	0.03177	0.03177	129.122
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00800	0.45073	0.21915	0.00251	0.00478	0.09891	0.10369	0.00478	0.02712	0.03189	380.541
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00780	0.00655	0.08670	0.00000	0.00000	0.02477	0.02477	0.00000	0.00580	0.00580	21.3776
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00146	0.08226	0.04000	0.00046	0.00087	0.01805	0.01892	0.00087	0.00495	0.00582	63.0030

3.8. Trench/Duct Banks (2029)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36858	4.15496	19.5940	0.03049	0.07042	—	0.07042	0.06946	—	0.06946	3,215.90
Dust From Material Movement	—	—	—	—	—	0.00270	0.00270	—	0.00041	0.00041	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05049	0.56917	2.68411	0.00418	0.00965	—	0.00965	0.00952	—	0.00952	440.534
Dust From Material Movement	—	—	—	—	—	0.00037	0.00037	—	0.00006	0.00006	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00921	0.10387	0.48985	0.00076	0.00176	—	0.00176	0.00174	—	0.00174	72.9354
Dust From Material Movement	—	—	—	—	—	0.00007	0.00007	—	0.00001	0.00001	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09762	0.08660	1.08273	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	299.623
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01283	1.05631	0.51447	0.00599	0.01141	0.23983	0.25123	0.01141	0.06566	0.07707	882.502
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01337	0.01009	0.14604	0.00000	0.00000	0.04439	0.04439	0.00000	0.01039	0.01039	41.5369
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00184	0.14158	0.07016	0.00082	0.00156	0.03235	0.03392	0.00156	0.00887	0.01043	120.940
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00244	0.00184	0.02665	0.00000	0.00000	0.00810	0.00810	0.00000	0.00190	0.00190	6.87690
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00034	0.02584	0.01280	0.00015	0.00029	0.00590	0.00619	0.00029	0.00162	0.00190	20.0231

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Prep	Linear, Grubbing & Land Clearing	1/3/2028	1/31/2028	5.00000	26.0000	Site Prep
Trenchless Install	Linear, Grading & Excavation	6/30/2028	8/16/2028	5.00000	40.0000	Trenchless Install
Cable Install	Linear, Drainage, Utilities, & Sub-Grade	3/12/2029	3/7/2030	5.00000	300.000	Cable Install
Paving	Linear, Paving	2/9/2029	3/11/2029	5.00000	22.0000	Linear Repaving
Vault Installation	Linear, Trenching	2/1/2028	6/30/2028	5.00000	103.000	Vault Installation
Trench/Duct Banks	Linear, Trenching	6/1/2028	3/11/2029	5.00000	202.000	Trench/Duct Banks

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Prep	Off-Highway Trucks	Diesel	Tier 4 Final	2.00000	5.00000	376.000	0.38000
Trenchless Install	Excavators	Diesel	Tier 4 Final	1.000000	6.00000	36.0000	0.38000
Trenchless Install	Bore/Drill Rigs	Diesel	Tier 4 Final	1.000000	6.00000	83.0000	0.50000
Trenchless Install	Cranes	Diesel	Tier 4 Final	1.000000	4.00000	367.000	0.29000
Trenchless Install	Air Compressors	Diesel	Tier 4 Final	1.000000	5.00000	37.0000	0.48000
Trenchless Install	Generator Sets	Diesel	Tier 4 Final	1.000000	8.00000	14.0000	0.74000
Trenchless Install	Welders	Diesel	Tier 4 Final	1.000000	3.00000	46.0000	0.45000
Trenchless Install	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.000000	5.00000	33.0000	0.73000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Trenchless Install	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	3.00000	82.0000	0.42000
Cable Install	Generator Sets	Diesel	Tier 4 Final	1.000000	8.00000	14.0000	0.74000
Cable Install	Other Construction Equipment	Diesel	Tier 4 Final	2.00000	5.00000	82.0000	0.42000
Paving	Rollers	Diesel	Tier 4 Final	1.000000	5.00000	36.0000	0.38000
Paving	Paving Equipment	Diesel	Tier 4 Final	1.000000	5.00000	89.0000	0.36000
Paving	Graders	Diesel	Tier 4 Final	1.000000	5.00000	148.000	0.41000
Paving	Sweepers/Scrubbers	Diesel	Tier 4 Final	1.000000	5.00000	36.0000	0.46000
Vault Installation	Excavators	Diesel	Tier 4 Final	2.00000	5.00000	36.0000	0.38000
Vault Installation	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	1.000000	5.00000	84.0000	0.37000
Vault Installation	Cranes	Diesel	Tier 4 Final	1.000000	5.00000	367.000	0.29000
Trench/Duct Banks	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	6.00000	5.00000	84.0000	0.37000
Trench/Duct Banks	Excavators	Diesel	Tier 4 Final	3.00000	5.00000	36.0000	0.38000
Trench/Duct Banks	Air Compressors	Diesel	Tier 4 Final	1.000000	5.00000	37.0000	0.48000
Trench/Duct Banks	Rollers	Diesel	Tier 4 Final	1.000000	5.00000	36.0000	0.38000
Trench/Duct Banks	Off-Highway Trucks	Diesel	Tier 4 Final	2.00000	4.00000	376.000	0.38000
Trench/Duct Banks	Generator Sets	Diesel	Tier 4 Final	1.000000	3.00000	14.0000	0.74000
Trench/Duct Banks	Welders	Diesel	Tier 4 Final	1.000000	3.00000	46.0000	0.45000
Trench/Duct Banks	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	5.00000	82.0000	0.42000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Prep	Worker	15.0000	11.7000	LDA,LDT1,LDT2
Site Prep	Vendor	0.00000	8.40000	HHDT,MHDT
Site Prep	Hauling	8.00000	20.0000	HHDT
Site Prep	Onsite truck	—	—	HHDT
Trenchless Install	Worker	20.0000	11.7000	LDA,LDT1,LDT2
Trenchless Install	Vendor	1.000000	8.40000	HHDT,MHDT
Trenchless Install	Hauling	12.0000	20.0000	HHDT
Trenchless Install	Onsite truck	—	—	HHDT
Cable Install	Worker	14.5000	11.7000	LDA,LDT1,LDT2
Cable Install	Vendor	4.00000	8.40000	HHDT,MHDT
Cable Install	Hauling	3.00000	20.0000	HHDT
Cable Install	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	0.00000	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Vault Installation	Worker	15.0000	11.7000	LDA,LDT1,LDT2
Vault Installation	Vendor	—	8.40000	HHDT,MHDT
Vault Installation	Hauling	7.00000	20.0000	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Vault Installation	Onsite truck	—	—	HHDT
Trench/Duct Banks	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Trench/Duct Banks	Vendor	—	8.40000	HHDT,MHDT
Trench/Duct Banks	Hauling	12.9356	20.0000	HHDT
Trench/Duct Banks	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Prep	0.00000	0.00000	5.17000	0.00000	0.00000
Trenchless Install	0.00000	0.00000	5.17000	0.00000	0.00000
Cable Install	0.00000	0.00000	5.17000	0.00000	0.00000
Trench/Duct Banks	0.00000	20,900.0	6.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00000	203.983	0.03300	0.00400
2029	0.00000	203.983	0.03300	0.00400
2030	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4500	annual days of extreme heat
Extreme Precipitation	2.60000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical

data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6478

Indicator	Result for Project Census Tract
AQ-PM	24.6049
AQ-DPM	83.8830
Drinking Water	40.5021
Lead Risk Housing	1.87776
Pesticides	0.00000
Toxic Releases	39.4974
Traffic	90.1250
Effect Indicators	—
CleanUp Sites	99.7200
Groundwater	94.1557
Haz Waste Facilities/Generators	96.9821
Impaired Water Bodies	43.7841
Solid Waste	80.0916
Sensitive Population	—
Asthma	11.6152
Cardio-vascular	29.6486
Low Birth Weights	84.8473
Socioeconomic Factor Indicators	—
Education	2.30321
Housing	15.8555
Linguistic	60.6171

Indicator	Result for Project Census Tract
Poverty	3.32915
Unemployment	19.5862

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	94.63621199
Employed	86.15424099
Median HI	96.26587964
Education	—
Bachelor's or higher	99.98716797
High school enrollment	100
Preschool enrollment	59.2839728
Transportation	—
Auto Access	77.83908636
Active commuting	49.44180675
Social	—
2-parent households	91.67201335
Voting	67.88143205
Neighborhood	—

Indicator	Result for Project Census Tract
Alcohol availability	92.35211087
Park access	57.03836777
Retail density	90.81226742
Supermarket access	12.97318106
Tree canopy	80.11035545
Housing	—
Homeownership	13.40947004
Housing habitability	54.69010651
Low-inc homeowner severe housing cost burden	38.62440652
Low-inc renter severe housing cost burden	87.73258052
Uncrowded housing	51.23829077
Health Outcomes	—
Insured adults	99.67919928
Arthritis	0.0
Asthma ER Admissions	82.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0

Indicator	Result for Project Census Tract
Life Expectancy at Birth	21.0
Cognitively Disabled	94.6
Physically Disabled	99.3
Heart Attack ER Admissions	68.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	14.8
Elderly	97.8
English Speaking	33.7
Foreign-born	99.3

Indicator	Result for Project Census Tract
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	19.0
Traffic Density	85.9
Traffic Access	50.1
Other Indices	—
Hardship	1.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0000
Healthy Places Index Score for Project Location (b)	96.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Applicant supplied data.
Construction: Off-Road Equipment	Applicant supplied data.
Construction: Off-Road Equipment EF	Emission factors for GenSets entered manually per CalEEMod.
Construction: Dust From Material Movement	Applicant supplied data.
Construction: Trips and VMT	Best estimate by Applicant.
Construction: Paving	Minimal - best estimate by Applicant.

8.4. Construction

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Trenchless Install	Excavators	Engine Tier	Average	Tier 4 Final
Trenchless Install	Excavators	Number per Day	3.00000	1.000000

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Trenchless Install	Excavators	Hours Per Day	8.00000	6.00000
Cable Install	Generator Sets	Engine Tier	Average	Tier 4 Final
Paving	Rollers	Engine Tier	Average	Tier 4 Final
Paving	Rollers	Number per Day	3.00000	1.000000
Paving	Rollers	Hours Per Day	8.00000	5.00000
Paving	Paving Equipment	Engine Tier	Average	Tier 4 Final
Paving	Paving Equipment	Hours Per Day	8.00000	5.00000
Vault Installation	Excavators	Number per Day	1.000000	2.00000
Trench/Duct Banks	Off-Highway Trucks	Number per Day	1.000000	2.00000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Site Prep	Worker	One-Way Trips per Day	5.00000	15.0000
Site Prep	Hauling	One-Way Trips per Day	0.00000	8.00000
Trenchless Install	Hauling	One-Way Trips per Day	0.00000	12.0000
Cable Install	Worker	One-Way Trips per Day	7.50000	14.5000
Cable Install	Vendor	One-Way Trips per Day	0.00000	4.00000
Cable Install	Hauling	One-Way Trips per Day	0.00000	3.00000
Paving	Worker	One-Way Trips per Day	10.00000	15.0000
Vault Installation	Worker	One-Way Trips per Day	10.00000	15.0000
Vault Installation	Hauling	One-Way Trips per Day	0.00000	7.00000

Trimble OH-Charcot Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Trimble OH-Charcot
Construction Start Date	1/1/2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00000
Precipitation (days)	31.0000
Location	37.38097150859676, -121.92571637133247
County	Santa Clara
City	San Jose
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1882
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.46

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	18.0000	1000sqft	0.42000	18,000.0	5,000.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05156	0.17753	1.79503	0.00265	0.00542	0.08572	0.09115	0.00525	0.02037	0.02562	372.192
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.23848	12.5814	89.2335	0.15538	0.45681	0.99073	1.44754	0.44307	0.23908	0.68215	17,491.5
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21184	1.16452	7.99613	0.01376	0.04152	0.12732	0.16884	0.04014	0.03063	0.07078	1,585.88
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Unmit.	0.03866	0.21253	1.45929	0.00251	0.00758	0.02324	0.03081	0.00733	0.00559	0.01292	262.560

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.05156	0.17753	1.79503	0.00265	0.00542	0.08572	0.09115	0.00525	0.02037	0.02562	372.192
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	2.23848	12.5814	89.2335	0.15538	0.45681	0.99073	1.44754	0.44307	0.23908	0.68215	17,491.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.21184	1.16452	7.99613	0.01376	0.04152	0.12732	0.16884	0.04014	0.03063	0.07078	1,585.88
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.03866	0.21253	1.45929	0.00251	0.00758	0.02324	0.03081	0.00733	0.00559	0.01292	262.560

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.02535	0.13184	1.46037	0.00248	0.00507	0.00000	0.00507	0.00507	0.00000	0.00507	269.005
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	1.96890	11.5616	86.0252	0.15105	0.44845	0.00000	0.44845	0.43580	0.00000	0.43580	16,088.8
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.17633	1.04394	7.57688	0.01323	0.04051	0.00000	0.04051	0.03929	0.00000	0.03929	1,405.87
Annual	—	—	—	—	—	—	—	—	—	—	—
2028	0.03218	0.19052	1.38278	0.00241	0.00739	0.00000	0.00739	0.00717	0.00000	0.00717	232.757

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.02621	0.04569	0.33466	0.00018	0.00035	0.08572	0.08607	0.00018	0.02037	0.02055	103.187
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2028	0.26957	1.01985	3.20829	0.00433	0.00836	0.99073	0.99909	0.00727	0.23908	0.24634	1,402.71
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2028	0.03552	0.12058	0.41925	0.00053	0.00102	0.12732	0.12833	0.00085	0.03063	0.03149	180.010
Annual	—	—	—	—	—	—	—	—	—	—	—

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
2028	0.00648	0.02201	0.07651	0.00010	0.00019	0.02324	0.02342	0.00016	0.00559	0.00575	29.8027

3. Construction Emissions Details

3.1. Site Preparation (2028)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29628	2.04138	6.95199	0.01314	0.07990	—	0.07990	0.07508	—	0.07508	1,302.66
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03653	0.25168	0.85709	0.00162	0.00985	—	0.00985	0.00926	—	0.00926	160.601
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00667	0.04593	0.15642	0.00030	0.00180	—	0.00180	0.00169	—	0.00169	26.5894
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06432	0.06112	0.71463	0.00000	0.00000	0.20666	0.20666	0.00000	0.04844	0.04844	190.407
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00717	0.42252	0.20327	0.00231	0.00441	0.09270	0.09711	0.00441	0.02538	0.02979	351.066
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00786	0.00660	0.08741	0.00000	0.00000	0.02497	0.02497	0.00000	0.00585	0.00585	23.7578
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00091	0.05129	0.02494	0.00029	0.00054	0.01126	0.01180	0.00054	0.00309	0.00363	43.3023
Annual	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Worker	0.00143	0.00121	0.01595	0.00000	0.00000	0.00456	0.00456	0.00000	0.00107	0.00107	3.93338
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00017	0.00936	0.00455	0.00005	0.00010	0.00205	0.00215	0.00010	0.00056	0.00066	7.16919

3.2. Building Construction (2028)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44894	2.60631	21.6987	0.03450	0.10080	—	0.10080	0.09808	—	0.09808	3,662.33
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04305	0.24992	2.08070	0.00331	0.00967	—	0.00967	0.00940	—	0.00940	351.183
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00786	0.04561	0.37973	0.00060	0.00176	—	0.00176	0.00172	—	0.00172	58.1423
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12751	0.12117	1.41668	0.00000	0.00000	0.40969	0.40969	0.00000	0.09603	0.09603	377.462
Vendor	0.00303	0.12452	0.06049	0.00073	0.00146	0.02783	0.02930	0.00073	0.00769	0.00842	104.639
Hauling	0.00143	0.08450	0.04065	0.00046	0.00088	0.01854	0.01942	0.00088	0.00508	0.00596	70.2131
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01212	0.01018	0.13478	0.00000	0.00000	0.03850	0.03850	0.00000	0.00901	0.00901	36.6314
Vendor	0.00030	0.01171	0.00572	0.00007	0.00014	0.00262	0.00276	0.00007	0.00073	0.00080	10.0351
Hauling	0.00014	0.00798	0.00388	0.00004	0.00008	0.00175	0.00184	0.00008	0.00048	0.00056	6.73591
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00221	0.00186	0.02460	0.00000	0.00000	0.00703	0.00703	0.00000	0.00164	0.00164	6.06474
Vendor	0.00005	0.00214	0.00104	0.00001	0.00003	0.00048	0.00050	0.00001	0.00013	0.00015	1.66142
Hauling	0.00003	0.00146	0.00071	0.00001	0.00002	0.00032	0.00033	0.00002	0.00009	0.00010	1.11521

3.3. Reconductoring (2028)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22368	6.91386	57.3745	0.10340	0.26776	—	0.26776	0.26264	—	0.26264	11,123.8
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08717	0.49249	4.08695	0.00737	0.01907	—	0.01907	0.01871	—	0.01871	792.378
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01591	0.08988	0.74587	0.00134	0.00348	—	0.00348	0.00341	—	0.00341	131.187
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06319	0.06005	0.70205	0.00000	0.00000	0.20302	0.20302	0.00000	0.04759	0.04759	187.055

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Vendor	0.00150	0.06147	0.02986	0.00036	0.00072	0.01374	0.01446	0.00036	0.00380	0.00416	51.6598
Hauling	0.00143	0.08450	0.04065	0.00046	0.00088	0.01854	0.01942	0.00088	0.00508	0.00596	70.2131
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00446	0.00375	0.04962	0.00000	0.00000	0.01417	0.01417	0.00000	0.00332	0.00332	13.4851
Vendor	0.00011	0.00429	0.00210	0.00003	0.00005	0.00096	0.00101	0.00003	0.00027	0.00029	3.68033
Hauling	0.00011	0.00593	0.00288	0.00003	0.00006	0.00130	0.00136	0.00006	0.00036	0.00042	5.00382
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00081	0.00068	0.00905	0.00000	0.00000	0.00259	0.00259	0.00000	0.00061	0.00061	2.23262
Vendor	0.00002	0.00078	0.00038	< 0.000005	0.00001	0.00018	0.00019	< 0.000005	0.00005	0.00005	0.60932
Hauling	0.00002	0.00108	0.00053	0.00001	0.00001	0.00024	0.00025	0.00001	0.00007	0.00008	0.82844

3.4. Restoration (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02535	0.13184	1.46037	0.00248	0.00507	—	0.00507	0.00507	—	0.00507	269.005
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Off-Road Equipment	0.02535	0.13184	1.46037	0.00248	0.00507	—	0.00507	0.00507	—	0.00507	269.005
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00959	0.04985	0.55214	0.00094	0.00192	—	0.00192	0.00192	—	0.00192	101.706
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00175	0.00910	0.10077	0.00017	0.00035	—	0.00035	0.00035	—	0.00035	16.8386
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02544	0.01739	0.32048	0.00000	0.00000	0.07903	0.07903	0.00000	0.01852	0.01852	77.9938
Vendor	0.00077	0.02830	0.01417	0.00018	0.00035	0.00670	0.00705	0.00018	0.00185	0.00203	25.1934
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02460	0.02337	0.27327	0.00000	0.00000	0.07903	0.07903	0.00000	0.01852	0.01852	72.8115
Vendor	0.00073	0.02995	0.01455	0.00018	0.00035	0.00670	0.00705	0.00018	0.00185	0.00203	25.1703

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00922	0.00775	0.10251	0.00000	0.00000	0.02928	0.02928	0.00000	0.00685	0.00685	27.8606
Vendor	0.00028	0.01110	0.00542	0.00007	0.00013	0.00249	0.00262	0.00007	0.00069	0.00076	9.51762
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00168	0.00141	0.01871	0.00000	0.00000	0.00534	0.00534	0.00000	0.00125	0.00125	4.61264
Vendor	0.00005	0.00203	0.00099	0.00001	0.00002	0.00045	0.00048	0.00001	0.00013	0.00014	1.57575
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2028	2/22/2028	6.00000	45.0000	Site Prep
Building Construction	Building Construction	1/22/2028	3/3/2028	6.00000	35.0000	TSP Install
Reconductoring	Building Construction	2/22/2028	3/23/2028	5.00000	26.0000	Reconductoring
Restoration	Building Construction	3/23/2028	8/30/2028	5.00000	138.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	5.30000	376.000	0.38000
Site Preparation	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	5.30000	82.0000	0.42000
Site Preparation	Generator Sets	Diesel	Tier 4 Final	1.000000	8.00000	14.0000	0.74000
Site Preparation	Signal Boards	Diesel	Tier 4 Final	2.00000	8.00000	6.00000	0.82000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Tier 4 Final	2.00000	7.80000	84.0000	0.37000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Bore/Drill Rigs	Diesel	Tier 4 Final	2.00000	7.80000	83.0000	0.50000
Building Construction	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	6.90000	376.000	0.38000
Building Construction	Plate Compactors	Diesel	Tier 4 Final	4.00000	6.90000	8.00000	0.43000
Building Construction	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	4.00000	376.000	0.38000
Building Construction	Other Construction Equipment	Diesel	Tier 4 Final	2.00000	5.00000	82.0000	0.42000
Reconductoring	Forklifts	Diesel	Tier 4 Final	1.000000	6.00000	82.0000	0.20000
Reconductoring	Generator Sets	Diesel	Tier 4 Final	2.00000	8.00000	14.0000	0.74000
Reconductoring	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	3.50000	82.0000	0.42000
Reconductoring	Other Construction Equipment	Diesel	Tier 4 Final	2.00000	7.00000	82.0000	0.42000
Reconductoring	Other Construction Equipment	Diesel	Tier 4 Final	2.00000	7.00000	82.0000	0.42000
Reconductoring	Off-Highway Trucks	Diesel	Tier 4 Final	4.00000	7.00000	376.000	0.38000
Reconductoring	Off-Highway Trucks	Diesel	Tier 4 Final	2.00000	7.00000	376.000	0.38000
Reconductoring	Off-Highway Trucks	Diesel	Tier 4 Final	2.00000	6.00000	376.000	0.38000
Reconductoring	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	3.00000	376.000	0.38000
Restoration	Off-Highway Trucks	Diesel	Tier 4 Final	1.000000	1.20000	376.000	0.38000
Restoration	Other Construction Equipment	Diesel	Tier 4 Final	1.000000	1.70000	82.0000	0.42000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	25.0000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	5.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Building Construction	Worker	49.5600	11.7000	LDA,LDT1,LDT2
Building Construction	Vendor	3.95020	8.40000	HHDT,MHDT
Building Construction	Hauling	1.000000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Reconductoring	Worker	24.5600	11.7000	LDA,LDT1,LDT2
Reconductoring	Vendor	1.95020	8.40000	HHDT,MHDT
Reconductoring	Hauling	1.000000	20.0000	HHDT
Reconductoring	Onsite truck	—	—	HHDT
Restoration	Worker	9.56000	11.7000	LDA,LDT1,LDT2
Restoration	Vendor	0.95020	8.40000	HHDT,MHDT
Restoration	Hauling	0.00000	20.0000	HHDT
Restoration	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00000	0.00000	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4500	annual days of extreme heat
Extreme Precipitation	2.60000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk

reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	1	4

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6478
AQ-PM	24.6049
AQ-DPM	83.8830
Drinking Water	40.5021
Lead Risk Housing	1.87776
Pesticides	0.00000
Toxic Releases	39.4974
Traffic	90.1250
Effect Indicators	—
CleanUp Sites	99.7200
Groundwater	94.1557
Haz Waste Facilities/Generators	96.9821
Impaired Water Bodies	43.7841
Solid Waste	80.0916
Sensitive Population	—
Asthma	11.6152
Cardio-vascular	29.6486
Low Birth Weights	84.8473
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	2.30321
Housing	15.8555
Linguistic	60.6171
Poverty	3.32915
Unemployment	19.5862

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	94.63621199
Employed	86.15424099
Median HI	96.26587964
Education	—
Bachelor's or higher	99.98716797
High school enrollment	100
Preschool enrollment	59.2839728
Transportation	—
Auto Access	77.83908636
Active commuting	49.44180675
Social	—

Indicator	Result for Project Census Tract
2-parent households	91.67201335
Voting	67.88143205
Neighborhood	—
Alcohol availability	92.35211087
Park access	57.03836777
Retail density	90.81226742
Supermarket access	12.97318106
Tree canopy	80.11035545
Housing	—
Homeownership	13.40947004
Housing habitability	54.69010651
Low-inc homeowner severe housing cost burden	38.62440652
Low-inc renter severe housing cost burden	87.73258052
Uncrowded housing	51.23829077
Health Outcomes	—
Insured adults	99.67919928
Arthritis	0.0
Asthma ER Admissions	82.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Indicator	Result for Project Census Tract
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	21.0
Cognitively Disabled	94.6
Physically Disabled	99.3
Heart Attack ER Admissions	68.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	14.8

Indicator	Result for Project Census Tract
Elderly	97.8
English Speaking	33.7
Foreign-born	99.3
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	19.0
Traffic Density	85.9
Traffic Access	50.1
Other Indices	—
Hardship	1.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0000
Healthy Places Index Score for Project Location (b)	96.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Applicant supplied best estimates.
Construction: Construction Phases	Phases based on Applicant supplied data.
Construction: Off-Road Equipment	Applicant supplied best estimates.
Construction: Off-Road Equipment EF	Some EFs entered manually per CalEEMod.
Construction: Trips and VMT	Applicant best estimates.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	0.41322	0.42000
Landscape Area	sq. ft	—	5,000.00

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	1/16/2028	1/1/2028
Site Preparation	Site Preparation	End Date	1/17/2028	2/22/2028
Site Preparation	Site Preparation	Days/Week	5.00000	6.00000
Site Preparation	Site Preparation	Work Days per Phase	1.000000	45.0000
Site Preparation	Site Preparation	Description	—	Site Prep
Building Construction	Building Construction	Start Date	1/21/2028	1/22/2028
Building Construction	Building Construction	End Date	6/9/2028	3/3/2028
Building Construction	Building Construction	Days/Week	5.00000	6.00000
Building Construction	Building Construction	Work Days per Phase	100.0000	35.0000
Building Construction	Building Construction	Description	—	TSP Install

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Building Construction	Tractors/Loaders/Backhoes	Engine Tier	Average	Tier 4 Final

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Building Construction	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	7.80000
Reconductoring	Forklifts	Engine Tier	Average	Tier 4 Final
Reconductoring	Forklifts	Number per Day	2.00000	1.000000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Site Preparation	Worker	One-Way Trips per Day	12.5000	25.0000
Site Preparation	Hauling	One-Way Trips per Day	0.00000	5.00000
Building Construction	Worker	One-Way Trips per Day	7.56000	49.5600
Building Construction	Vendor	One-Way Trips per Day	2.95020	3.95020
Building Construction	Hauling	One-Way Trips per Day	0.00000	1.000000
Reconductoring	Worker	One-Way Trips per Day	7.56000	24.5600
Reconductoring	Vendor	One-Way Trips per Day	2.95020	1.95020
Reconductoring	Hauling	One-Way Trips per Day	0.00000	1.000000
Restoration	Worker	One-Way Trips per Day	7.56000	9.56000
Restoration	Vendor	One-Way Trips per Day	2.95020	0.95020

Appendix AQ5

Risk Assessment Support Data

Table AQ5-1 Charcot Ave. Data Center - Sensitive Receptor Listing

Receptor ID	Type	UTM Em	UTM Nm	Distance from Site Mid-Point meters	feet	miles	Notes
Site (approx. mid-point)		**596,088.00**	**4,137,653.03**	**na**	**na**		
NVIDIA University	University	595,769.21	4,137,573.40	328.0	1,076.0	0.20	No longer at this location. **
StandOut Chinese School	Preschool	596,806.27	4,137,770.02	726.3	2,382.9	0.45	
Stanford Clinic	Hospital	595,385.57	4,136,659.89	1,217.3	3,993.8	0.76	Medical offices/day clinic, not a Hospital
Headstart	Preschool	597,358.01	4,138,007.82	1,316.3	4,318.5	0.82	
Orchard School District	Elementary School	597,250.39	4,138,521.81	1,450.3	4,758.3	0.90	District offices/not a school
Champions at Orchard Preschool	Daycare	597,183.49	4,138,634.53	1,470.5	4,824.6	0.91	
Champions at Orchard Elementary	Daycare	597,231.79	4,138,556.44	1,456.8	4,779.6	0.91	
Simula Technology Corp.	University	595,988.93	4,136,180.47	1,479.1	4,852.6	0.92	
Enlighten Heart Education Center	Daycare	597,354.56	4,138,453.84	1,497.1	4,911.9	0.93	
Little Bunnies Childcare	Daycare	597,043.68	4,138,979.74	1,636.2	5,368.1	1.02	
University of California Cooperative E	University	597,628.30	4,136,949.23	1,691.3	5,548.8	1.05	
Bright Horizons at Skyport	Preschool	595,983.30	4,135,959.21	1,700.7	5,579.8	1.06	
San José Conservation Corps + Charte	Elementary School	597,654.88	4,136,750.98	1,806.2	5,926.0	1.12	Adult education site/not elementary school
Gurnick Academy - San Jose Campus	University	596,256.69	4,135,835.74	1,829.0	6,000.8	1.14	
University of San Jose (USJ)	University	596,331.43	4,135,839.17	1,834.0	6,017.1	1.14	
Peking University Alumni Association	University	597,970.83	4,137,843.73	1,888.6	6,196.2	1.17	
Valley Oak Montessori - Milpitas	Preschool	597,970.83	4,137,843.73	1,888.6	6,196.2	1.17	
720 Martial Arts Academy	Daycare	597,910.86	4,137,062.66	1,913.0	6,276.1	1.19	Not a daycare facility
Bachrodt Elementary School	Elementary School	596,274.08	4,135,712.89	1,953.2	6,408.3	1.21	
Catalyst Kids Bachrodt	Preschool	596,310.64	4,135,702.37	1,967.5	6,455.1	1.22	
Challenger School - Berryessa	Preschool	597,807.43	4,136,640.85	1,993.4	6,540.0	1.24	
Pasitos School (Central)	Preschool	596,389.82	4,135,618.92	2,060.7	6,760.8	1.28	
Sunny Child Care Center	Daycare	594,009.21	4,137,439.23	2,085.5	6,842.2	1.30	
Asha's Daycare	Daycare	596,073.84	4,135,417.13	2,240.8	7,351.8	1.39	
Sourcewise	Group Home	593,834.90	4,137,498.77	2,253.7	7,394.2	1.40	
Five Branches University Clinic & Heal	University	598,113.67	4,139,056.49	2,462.5	8,079.2	1.53	
FlyU Feiteng After School	Daycare	598,450.80	4,138,448.46	2,488.9	8,165.8	1.55	
Jedbaby	Daycare	593,700.98	4,138,429.98	2,506.2	8,222.4	1.56	
Cops Care Cancer Foundation (CCCF)	Hospital	597,049.16	4,135,312.16	2,534.6	8,315.5	1.57	Foundation offices/not a Hospital
South Bay Islamic Association (SBIA -	Elementary School	596,889.07	4,140,135.77	2,613.3	8,573.9	1.62	
Santa Clara Little Learners Daycare	Preschool	593,707.84	4,138,880.42	2,675.0	8,776.1	1.66	
Mathnasium	Daycare	598,703.44	4,138,428.44	2,723.2	8,934.3	1.69	
Golden State Baptist College	University	593,414.93	4,138,346.99	2,756.8	9,044.6	1.71	
Santa Clara Sunshine Daycare & Learr	Preschool	593,671.40	4,138,997.38	2,762.5	9,063.5	1.72	
California Science And Technology Un	University	595,734.05	4,140,390.36	2,766.0	9,074.7	1.72	
BayAreaChess Inc.	Daycare	598,240.39	4,139,410.52	2,777.6	9,112.9	1.73	

Medarex Inc	University	596,224.77	4,140,444.38	2,800.7	9,188.8	1.74	Pharmaceutical company/not a school
Ly's Pole Studio at San Jose	Elementary School	598,301.23	4,139,418.97	2,830.1	9,285.1	1.76	Dance class studio/not a school
Silicon Valley University	University	597,882.68	4,139,856.91	2,843.4	9,328.8	1.77	
Joy Seasons Camp	Preschool	598,335.91	4,139,401.37	2,846.3	9,338.3	1.77	
DeVry University	University	598,214.22	4,139,597.15	2,880.5	9,450.5	1.79	
Keller Graduate School of Manageme	University	598,221.24	4,139,582.95	2,876.1	9,436.0	1.79	
Ross Business Institute(Silicon Valley)	University	595,579.80	4,140,511.77	2,909.6	9,545.8	1.81	
Loving Tree Academy 春雨学院	Daycare	597,048.17	4,140,417.51	2,931.4	9,617.5	1.82	
Montague Elementary School	Elementary School	593,242.94	4,138,528.06	2,971.6	9,749.4	1.85	
Montague Preschool	Preschool	593,240.55	4,138,522.12	2,972.1	9,751.1	1.85	
Montague District Preschool	Preschool	593,266.68	4,138,648.70	2,987.2	9,800.5	1.86	
Kiddie Cove Bilingual Daycare & Presc	Daycare	593,255.96	4,138,746.60	3,031.4	9,945.4	1.88	
EZ Learning Center	Daycare	597,017.32	4,140,551.48	3,049.1	10,003.7	1.89	
Sunny Children Service	Daycare	599,058.27	4,138,321.86	3,038.9	9,970.2	1.89	
Pearl Zanker Elementary School	Elementary School	596,812.75	4,140,663.54	3,102.5	10,178.7	1.93	
Santa Clara Angel Christian Family Da	Preschool	593,164.23	4,138,713.76	3,105.5	10,188.5	1.93	
Contractor License Courses Of Califor	Trade School	593,928.65	4,135,399.64	3,121.3	10,240.5	1.94	
Muwekma Ohlone Middle School	Middle School	597,387.06	4,134,778.79	3,158.9	10,363.8	1.96	

Explanatory Notes:

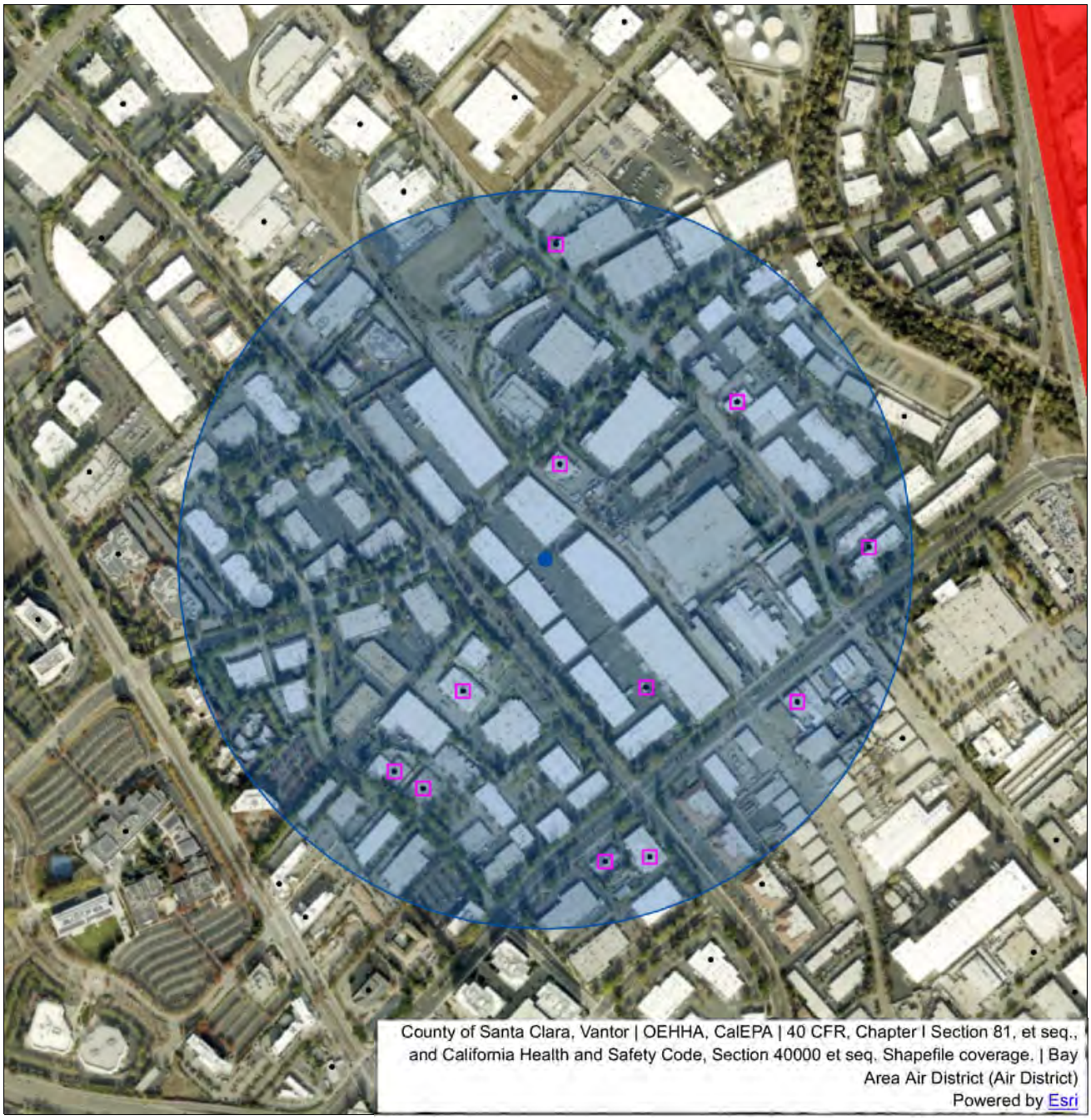
** NVIDIA University located at NVIDIA Campus, 2788 San Tomas Expressway, Santa Clara, CA.

Near Me Report

Area of Interest (AOI) Information

Area: 12,543,415.58 ft²

Date: Fri Oct 09 2026 18:14:17 GMT-0700 (Pacific Daylight Time)



Permitted Stationary Sources

Bay Area Air District Boundary

Overburdened Communities

Permitted Stationary Sources | Total count: 12

#	OBJECTID	FacilityID	FacilityName
1	1713	14,573	California Highway Patrol
2	8602	*No data*	California Highway Patrol
3	1595	14,286	Deliverex
4	4806	22,129	Espanas Collision Repair
5	775	10,269	Fix Auto - San Jose
6	88	1,239	Hill Brothers Chemical Co
7	970	12,184	Innovion Corporation
8	4708	21,896	Quantum Labs Inc
9	244	3,144	Sanmina Corporation
10	750	9,933	Storopack
11	5460	23,339	SV Probe Inc
12	123	1,586	Universal Semiconductor

#	Address	City	State
1	2020 Junction Avenue	San Jose	CA
2	2020 Junction Avenue	San Jose	CA
3	2030 Zanker Road	San Jose	CA
4	470 E BROKAW RD	San Jose	CA
5	250 E Brokaw Rd	San Jose	CA
6	410 Charcot Avenue	San Jose	CA
7	2121 Zanker Road	San Jose	CA
8	2108 Bering Dr Bldg B	San Jose	CA
9	2068 Bering Drive	San Jose	CA
10	2210 Junction Avenue	San Jose	CA
11	535 E Brokaw Road	San Jose	CA
12	1925 Zanker Road	San Jose	CA

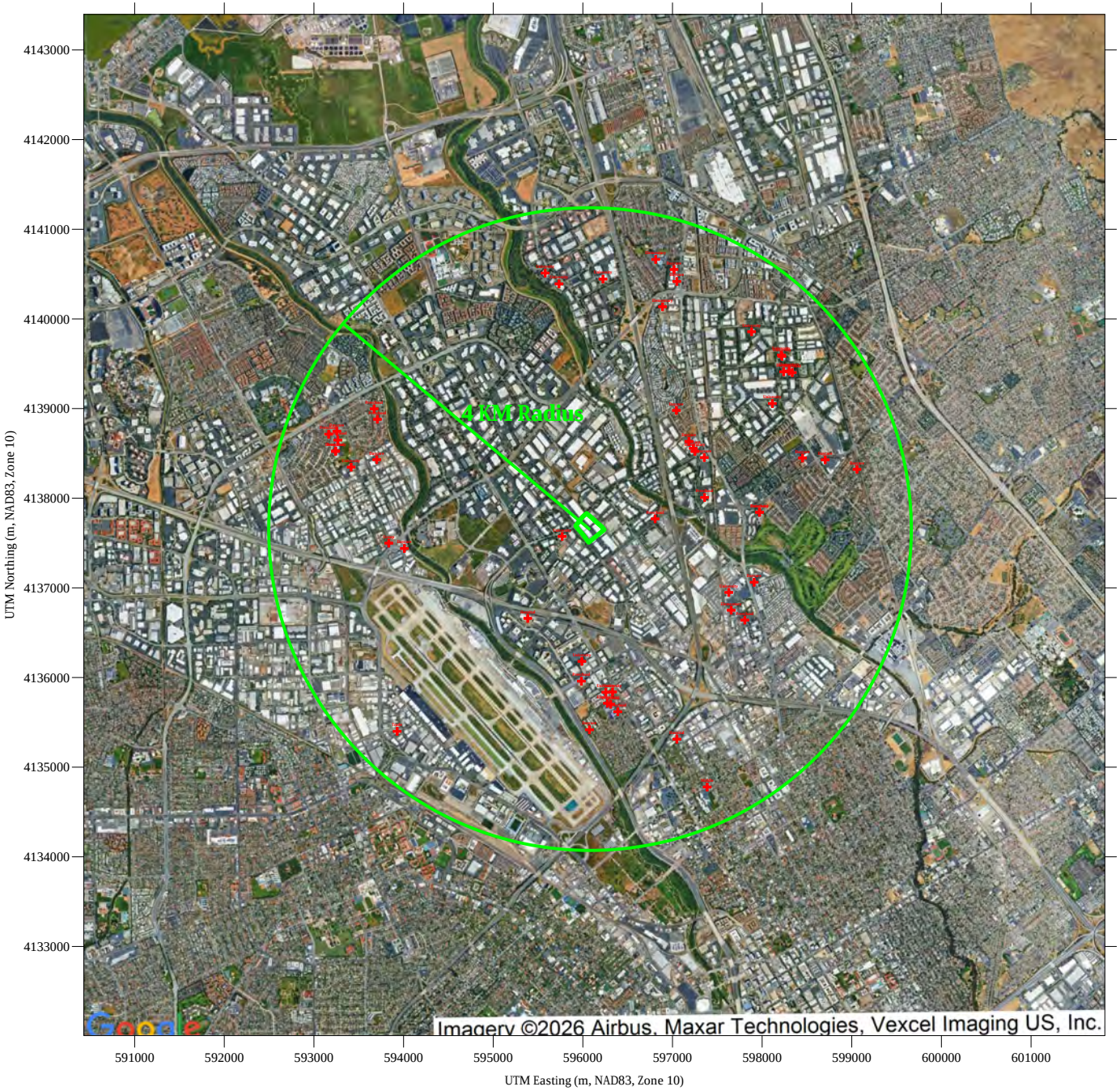
#	Zip	County	Latitude
1	95131	Santa Clara	37.383231
2	95131	Santa Clara	37.383231
3	95131	Santa Clara	37.378988
4	95112	Santa Clara	37.378768
5	95112	Santa Clara	37.376404
6	95131	Santa Clara	37.382307
7	95131	Santa Clara	37.378944
8	95131	Santa Clara	37.377751
9	95131	Santa Clara	37.377487
10	95131	Santa Clara	37.385594
11	95112	Santa Clara	37.381073
12	95112	Santa Clara	37.376460

#	Longitude	SourceType	NAICS
1	-121.911239	Generator	922120
2	-121.911239	Nonretail Gas Station	922120
3	-121.912969	Generator	312230
4	-121.910136	*No data*	811121
5	-121.913731	*No data*	811121
6	-121.914578	*No data*	325180
7	-121.916400	*No data*	334413
8	-121.917683	*No data*	334413
9	-121.917154	*No data*	334412
10	-121.914638	*No data*	326140
11	-121.908782	*No data*	334413
12	-121.912909	*No data*	334413

#	NAICS Sector	NAICS Subsector	NAICS Industry
1	Public Administration	Justice, Public Order, and Safety Activities	Police Protection
2	Public Administration	Justice, Public Order, and Safety Activities	Police Protection
3	Manufacturing	Beverage and Tobacco Product Manufacturing	Tobacco Manufacturing
4	Other Services (except Public Administration)	Repair and Maintenance	Automotive Body, Paint, and Interior Repair and Maintenance
5	Other Services (except Public Administration)	Repair and Maintenance	Automotive Body, Paint, and Interior Repair and Maintenance
6	Manufacturing	Chemical Manufacturing	Other Basic Inorganic Chemical Manufacturing
7	Manufacturing	Computer and Electronic Product Manufacturing	Semiconductor and Related Device Manufacturing
8	Manufacturing	Computer and Electronic Product Manufacturing	Semiconductor and Related Device Manufacturing
9	Manufacturing	Computer and Electronic Product Manufacturing	Bare Printed Circuit Board Manufacturing
10	Manufacturing	Plastics and Rubber Products Manufacturing	Polystyrene Foam Product Manufacturing
11	Manufacturing	Computer and Electronic Product Manufacturing	Semiconductor and Related Device Manufacturing
12	Manufacturing	Computer and Electronic Product Manufacturing	Semiconductor and Related Device Manufacturing

#	CancerRisk	ChronicHI	PM25	Throughput_Gal/yr
1	10	0.08	0.41	*No data*
2	1	0.00	0.00	*No data*
3	1	0.00	0.00	*No data*
4	0	0.00	0.00	*No data*
5	0	0.00	0.00	*No data*
6	0	0.00	0.00	*No data*
7	0	0.00	0.00	*No data*
8	0	0.00	0.00	*No data*
9	0	0.00	0.00	*No data*
10	4	0.15	0.65	*No data*
11	0	0.00	0.00	*No data*
12	0	0.00	0.00	*No data*

Figure AQ5-1
Sensitive Receptor Map
(See Table AQ5-1)



APPENDIX G

Arborist Report

ARBORIST REPORT

April 7, 2026
5559.00

PROJECT
Prologis Brokaw
2140 Zanker Rd. and 2070 Zanker Rd.
San Jose, CA

PREPARED FOR
David J. Powers & Associates

PREPARED BY
HMH
1570 Oakland Road
San Jose, CA 95131
William Sowa
RLA #4466
ISA Certified Arborist #WE-12270A
ISA TRAQ Credentialed

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INTRODUCTION AND OVERVIEW

HMH was contracted to complete a survey, assessment and arborist report for trees located within the limit of work illustrated on Exhibit A and B. The project site encompasses two adjacent parcels, totaling approximately 14.31 acres. Both parcels have commercial buildings and surface parking. There are commercial parcels surrounding the properties with a railway line to the east. Our scope of services includes locating, measuring DBH, assessing, and photographing the condition of all trees within the limit of work. Disposition and health recommendations are based on current site conditions. Site development/design may affect the preservation suitability. In addition, trees located outside the limit of work may be included if they may potentially be impacted by development of the site. These trees will not be measured, nor health assessed due to limited access. Tree locations are approximate, and their exact location should be determined by a licensed land surveyor. It should not be assumed that all trees inventoried are owned by the property owner. Check city and/or county codes for regulations regarding trees in the public right of way, setbacks, and/or easements.

METHODOLOGY

Our tree survey work is a deliberate and systematic methodology for cataloging trees on site:

1. Identify each tree species.
2. Note each tree's location on a site map.
3. Measure each trunk circumference at 4.5' above grade per ISA standards.
4. Evaluate the health, structure, and form of each tree using the following numerical standard:
   81% - 100% *- Excellent*
   61% - 80% *- Good*
   41% - 60% *- Fair*
   21% - 40% *- Poor*
   6% - 20% *- Very Poor*
   0% - 5% *- Dead*

SUMMARY OF FINDINGS

HMH conducted a tree inventory of 72 trees located within the limit of work outlined in Exhibit A and B. Sixty-eight (68) of the trees inventoried are classified as ordinance-sized trees under the City of San Jose Tree Removal permit.

An ordinance-size tree is:
Single Trunk - 38 inches or more in circumference at 4 ½ feet above ground; or
Multi-trunk - The combined measurements of each trunk circumference (at 4 ½ feet above ground) add up to 38 inches or more.

Table 1 - Tree Quantity Summary summarizes tree quantities by both species and size. Each species that was inventoried as part of this scope is included. This is a useful tool for analyzing the mixture of trees as part of the project. The size table is useful when calculating mitigation requirements in the case of tree removal as well as aiding in determining tree maturity.

Table 2 - Tree Evaluation Summary lists each tree number, botanical name, common name, DBH, circumference, ordinance trees, health, structure, and form rating, general notes and observations and recommendations.

See Exhibit A and B for Existing Tree Locations
See Table 1 for Tree Quantity Summary by species and size.
See Table 2 for Tree Evaluation Summary for sizes, notes and recommendations regarding each tree.

GENERAL OBSERVATIONS AND RECOMMENDATIONS

Species: *Eucalyptus camaldulensis* (Red Gum)
Quantity: 1
Tree Numbers: 13
Observations / Recommendations:
There is one large red gum in a relatively small planting area in the back parking area. There are surface roots and epicormic growth. The tree is in fairly good health but not ideal form and structure. The tree has a rather wide open vase shape which is not the most structurally sound branch formation. Red gum is also considered somewhat invasive by the California Invasive Plant Council.

Species: *Fraxinus angustifolia 'Raywood'* (Raywood Ash)
Quantity: 30
Tree Numbers: 2, 6-7, 10, 15-16, 23-24, 27-29, 32-33, 35-37, 40, 42-53
Observations / Recommendations:
The main tree surrounding the property on the north and east sides is the Raywood Ash. These trees are very large and mature. They have been pruned harshly to either clear dead branching or to provide vehicular clearance. Many of the trees have epicormic growth, thining, and branch die back. They appear to be reaching the end of the their lifespan and approaching decline. These trees may be considered street trees. Because of their advanced age, as well as the harsh pruning causing structural issues and they aren't very attractive, replacing these trees is recommended.

Species: *Fraxinus uhdei* (Shamel Ash)
Quantity: 3
Tree Numbers: 25-26, 34
Observations / Recommendations:
There are three Shamel Ash trees. They are very large specimens that are in better health, structure and form than the Raywood Ash trees. Trees 25 and 26 are a bit crowded next to each other. Tree 26 has surface roots that are adjacent to the parking area.

Species: *Lagerstroemia indica* (Crape Myrtle)
Quantity: 21
Tree Numbers:
Observations / Recommendations:
The crape myrtles are in fairly good health and shape. They are planted against the buildings. Their form is somewhat crowded by the adjacent buildings, but it is not a major structural issue.

Species: *Liquidambar styraciflua* (Sweetgum)
Quantity: 5
Tree Numbers: 12, 30, 38-39, 41
Observations / Recommendations:
There are five sweetgums that are in fairly good health and shape. They all seem to be large mature specimens. Tree 12 is in a planting area in the rear parking area and trees 30, 38-39, and 41 are at the front of the property near Zanker Rd. Sweetgums produce spiky seed balls that can be a considered a tripping hazard or nuisance.

Species: *Sequoia sempervirens* (Coast Redwood)
Quantity: 12
Tree Numbers: 1, 3-5, 8-9, 17-22
Observations / Recommendations:
There are twelve coast redwoods along the north side of the property along Charcot Ave. They are in varying heath conditions from moderate to dead. Several of the trees have epicormic growth and some branch die back which are signs of stress. Tree 3 has codominant trunks which is weaker structurally than a single trunk. Trees 19 and 20 are dead. Coast redwoods are native to coastal areas that receive regular fog. In warmer inland areas, coast redwoods need a large amount of irrigation and frequently do not thrive in the drier environment.

RECOMMENDATIONS FOR TREE PROTECTION DURING CONSTRUCTION

Site preparation: All existing trees shall be fenced within or at the drip line (foliar spread) of the tree. Depending on the location of the tree the fencing may not be able to be at the dripline. Examples of this would be public right of way, near property lines or around existing structures to remain. Where complete drip line fencing is not possible, the addition of straw waddles and orange snow fencing wrapping the trunk shall be installed per the tree protection detail. The fence should be a minimum of six feet high, made of galvanized 11-gauge wire mesh with galvanized posts or any material superior in quality. A tree protection zone (TPZ) sign shall be affixed to fencing at appropriate intervals as determined by the arborist on site. If the fence is within the drip line of the trees, the foliar fringe shall be raised to offset the chance of limb damage from active construction.

Active Construction: All contractors, subcontractors and other personnel shall be warned that encroachment within the fenced area and dripline is prohibited without the consent of the certified arborist on the job. This includes, but is not limited to, storage of lumber and other materials, disposal of paints, solvents or other noxious materials, parked cars, grading equipment or other heavy equipment. If construction activity needs to happen in the TPZ the fence can be moved temporarily for delivery of construction materials. The contractor should make accommodations to off load items such as trusses, timber, plasterboard, wallboard, concrete, gypsum board, flooring, roofing or any other heavy construction material outside the foliar spread of the tree so there is no heavy equipment needed that could cause damage to the canopy of the tree or compact the root zone. The tree protection fencing should be reestablished per the plans and details immediately after any activity through the TPZ. Penalties, based on the cost of remedial repairs and the evaluation guide published by the International Society of Arboriculture, shall be assessed for damages to the trees.

Grading/excavating: All grading plans that specify grading within the drip line of any tree, or within the distance from the trunk as outlined in the site preparation section above when said distance is outside the drip line, shall first be reviewed by a certified arborist. Provisions for aeration, drainage, pruning, tunneling beneath roots, root pruning or other necessary actions to protect the trees shall be outlined by an arborist. If trenching is necessary within the area as described above, said trenching shall be undertaken by hand labor and dug directly beneath the trunk of the tree. All roots 2 inches or larger shall be tunneled under and other roots shall be cut smoothly to the trunk side of the trench. The trunk side should be draped immediately with two layers of untreated burlap to a depth of 3 feet from the surface. The burlap shall be soaked nightly and left in place until the trench is back filled to the original level. An arborist shall examine the trench prior to back filling to ascertain the number and size of roots cut, so as to suggest the necessary remedial repairs.

Remedial repairs: An arborist shall have the responsibility of observing all ongoing activities that may affect the trees and prescribing necessary remedial work to ensure the health and stability of the trees. This includes, but is not limited to, all arborist activities brought out in the previous sections. In addition, pruning, as outlined in International Society of Arboriculture Best Management Practices: Pruning and ANSI A300 Part 1 Standard Practices: Pruning, shall be prescribed as necessary. Fertilizing, aeration, irrigation, pest control and other activities shall be prescribed according to the tree needs, local site requirements, and state agricultural pest control laws. All specifications shall be in writing. For pest control operations, consult the local county agricultural commissioner's office for individuals licensed as pest control advisors or pest control operators.

Final inspection: Upon completion of the project, the arborist shall review all work undertaken that may impact the existing trees. Special attention shall be given to cuts and fills, compacting, drainage, pruning and future remedial work. An arborist should submit a final report in writing outlining the ongoing remedial care following the final inspection.

MAINTENANCE RECOMMENDATIONS FOR TREES TO REMAIN

Regular maintenance, designed to promote plant health and vigor, ensures longevity of existing trees. Regular inspections and the necessary follow-up care of mulching, fertilizing, and pruning, can detect problems and correct them before they become damaging or fatal.

Tree Inspection: Regular inspections of mature trees at least once a year can prevent or reduce the severity of future disease, insect, and environmental problems. During tree inspection, four characteristics of tree vigor should be examined: new leaves or buds, leaf size, twig growth, and absence of crown dieback (gradual death of the upper part of the tree). A reduction in the extension of shoots (new growing parts), such as buds or new leaves, is a fairly reliable cue that the tree's health has recently changed. Growth of the shoots over the past three years may be compared to determine whether there is a reduction in the tree's typical growth pattern. Further signs of poor tree health are trunk decay, crown dieback, or both. These symptoms often indicate problems that began several years before. Loose bark or deformed growths, such as trunk conks (mushrooms), are common signs of stem decay. Any abnormalities found during these inspections, including insect activity and spotted, deformed, discolored, or dead leaves and twigs, should be noted and observed closely.

Mulching: Mulch, or decomposed organic material, placed over the root zone of a tree reduces environmental stress by providing a root environment that is cooler and contains more moisture than the surrounding soil. Mulch can also prevent mechanical damage by keeping machines such as lawn mowers and string trimmers away from the tree's base. Furthermore, mulch reduces competition from surrounding weeds and turf. To be most effective, mulch should be placed 2 to 4 inches deep and cover the entire root system, which may be as far as 2 or 3 times the diameter of the branch spread of the tree. If the area and activities happening around the tree do not permit the entire area to be mulched, it is recommended that as much of the area under the drip line of the tree is mulched as possible. When placing mulch, care should be taken not to cover the actual trunk of the tree. This mulch-free area, 1 to 2 inches wide at the base, is sufficient to avoid moist bark conditions and prevent trunk decay. An organic mulch layer 2 to 4 inches deep of loosely packed shredded leaves, pine straw, peat moss, or composted wood chips is adequate. Plastic should not be used as it interferes with the exchange of gases between soil and air, which inhibits root growth. Thicker mulch layers, 5 to 6 inches deep or greater, may also inhibit gas exchange.

Fertilization: Trees require certain nutrients (essential elements) to function and grow. Urban landscape trees may be growing in soils that do not contain sufficient available nutrients for satisfactory growth and development. In certain situations, it may be necessary to fertilize to improve plant vigor. Fertilizing a tree can improve growth; however, if fertilizer is not applied wisely, it may not benefit the tree at all and may even adversely affect the tree. Mature trees making satisfactory growth may not require fertilization. When considering supplemental fertilizer, it is important to consider nutrients deficiencies and how and when to amend the deficiencies. Soil conditions, especially pH and organic matter content, vary greatly, making the proper selection and use of fertilizer a somewhat complex process. To that end, it is recommended that the soil be tested for nutrient content. A soil testing laboratory and can give advice on application rates, timing, and the best blend of fertilizer for each tree and other landscape plants on site. Mature trees have expansive root systems that extend from 2 to 3 times the size of the leaf

canopy. A major portion of actively growing roots is located outside the tree's drip line. Understanding the actual size and extent of a tree's root system before applying fertilizer is paramount to determine quantity, type and rate at which to best apply fertilizer. Always follow manufacturer recommendations for use and application.

Pruning: Pruning is often desirable or necessary to remove dead, diseased, or insect-infested branches and to improve tree structure, enhance vigor, or maintain safety. Because each cut has the potential to change the growth of (or cause damage to) a tree, no branch should be removed without reason. Removing foliage from a tree has two distinct effects on growth: (1) it reduces photosynthesis and, (2) it may reduce overall growth. Pruning should always be performed sparingly. Caution must be taken not to over-prune as a tree may not be able to gather and process enough sunlight to survive. Pruning mature trees may require special equipment, training, and experience. Licensed and insured tree maintenance companies are equipped to provide a variety of services to assist in performing the job safely and reducing risk of personal injury and property damage and should be consulted for this type of work. *(See also ANSI A300 Part 1 Pruning Standards- https://www.tcia.org).*

Planting and Irrigation: Any new planting and irrigation that is to occur under the drip line of an existing tree should be conducted with care to avoid the root system. Generally installation of an irrigation mainline should be avoided under the dripline of the existing tree. Refer to the Grading/Excavating section for installation of any irrigation lines to be installed under the drip line of an existing tree. Any new planting should match the water use of the existing tree (as defined by WUCOLS). The irrigation hydro zone for the new planting should also match the requirements of the existing tree.

Removal: There are circumstances when removal is necessary. An arborist can help decide whether or not a tree should be removed. Professionally trained arborists have the skills and equipment to safely and efficiently remove trees. Removal is recommended when a tree: (1) is dead, dying, or considered irreparably hazardous; (2) is causing an obstruction or is crowding and causing harm to other trees and the situation is impossible to correct through pruning; (3) is to be replaced by a more suitable specimen, and; (4) should be removed to allow for construction. Pruning or removing trees, especially large trees, can be dangerous work. It should be performed only by those trained and equipped to work safely in trees.

TERMS AND CONDITIONS

The following terms and conditions apply to all oral and written reports and correspondence pertaining to consultations, inspections and activities of HMH.

1. The scope of any report or other correspondence is limited to the trees and conditions specifically mentioned in those reports and correspondence. HMH assumes no liability for the failure of trees or parts of trees, either inspected or otherwise. HMH assumes no responsibility to report on the condition of any tree or landscape feature not specifically requested by the named client.
2. No tree described in this report was climbed, unless otherwise stated. HMH does not take responsibility for any defects, which could have only been discovered by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed unless otherwise stated. HMH does not take responsibility for any root defects, which could only have been discovered by such an inspection.
3. HMH shall not be required to provide further documentation, give testimony, be deposed, or attend court by reason of this appraisal or report unless subsequent contractual arrangements are made, including payment of additional fees for such services as described by HMH or in the schedule of fees or contract.
4. HMH guarantees no warrantee, either expressed or implied, as to the suitability of the information contained in the reports for any reason. It is the responsibility of the client to determine applicability to his/her case.
5. Any report and the values, observations and recommendations expressed therein represent the professional opinion of HMH, and the fee for services is in no manner contingent upon the reporting of a specified value nor upon any particular finding to be reported.
6. Any photographs, diagrams, graphs, sketches or other graphic material included in any report, being intended solely as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys, unless otherwise noted in the report. Any reproductions of graphic material or the work produced by other persons, is intended solely for clarification and ease of reference. Inclusion of said information does not constitute a representation by HMH as to the sufficiency or accuracy of that information.
7. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Existing Tree Map
Exhibit A



Existing Tree Map
Exhibit B

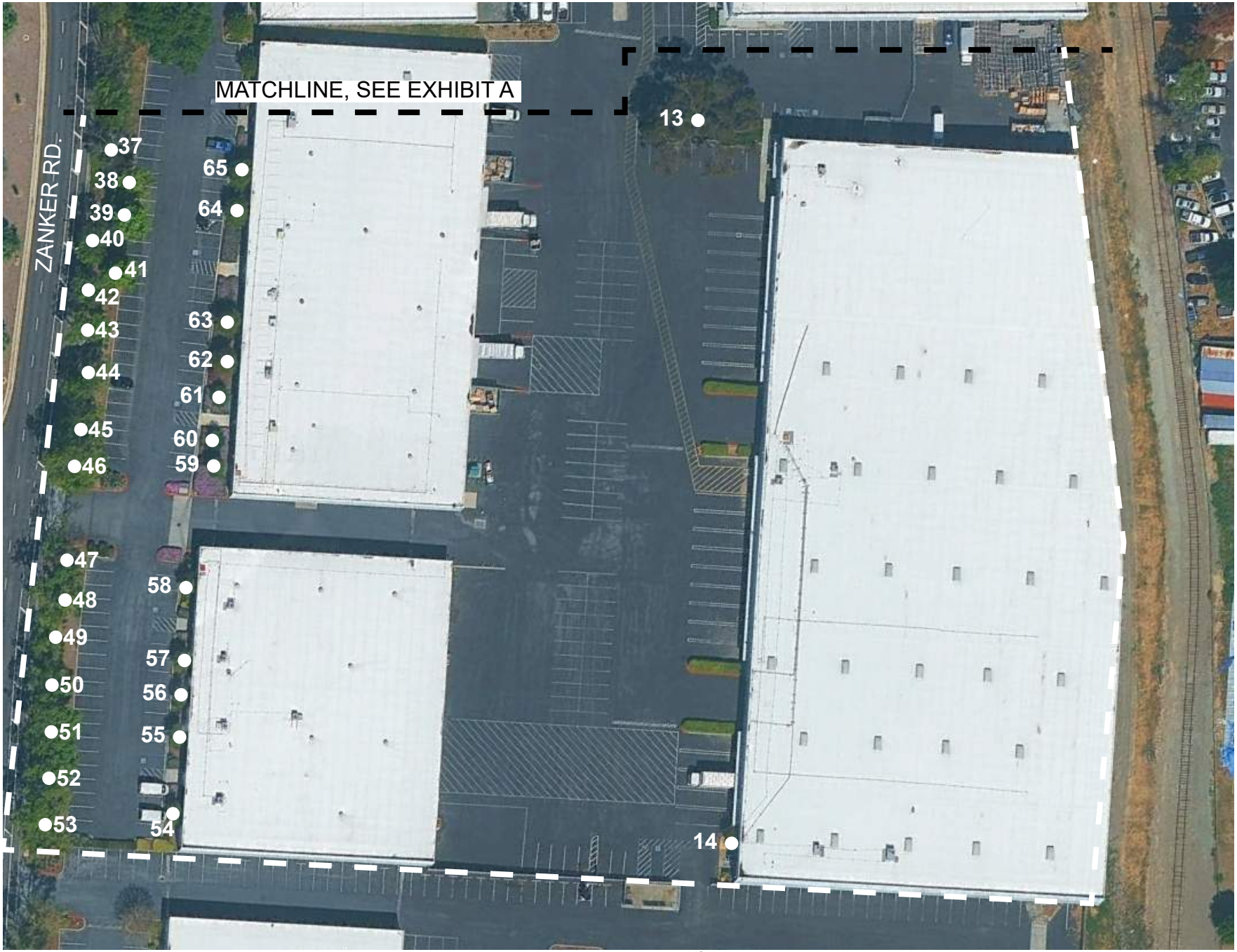


TABLE 1 - TREE QUANTITY SUMMARY

Tree Quantity by Species		
Species	**Quantity**	**% of Site**
Eucalyptus camaldulensis	1	1%
Fraxinus angustifolia 'Raywood'	30	42%
Fraxinus uhdei	3	4%
Lagerstroemia indica	21	29%
Liquidambar styraciflua	5	7%
Sequoia sempervirens	12	17%
Total Trees	**72**	**100%**

Tree Quantity by Size		
Circumference	**Native Qty.**	**Non-Native Qty**
38" or more	12	56
19 up to 38"	0	4
Less than 19"	0	0
Total	**12**	**60**

TABLE 2 - TREE EVALUATION SUMMARY

Prepared By: William Sowa ISA Certified Arborist WE-12270A

PROJECT NUMBER: 5559.00 **PROJECT NAME: PROLOGIS BROKAW** **CITY: San Jose**

DBH MEASUREMENT HEIGHT: 54"

Date of Evaluation: 4/1/2026 - 4/2/2026

Condition Components

Percent Rating	Category	Health	Structure	Form
81% to 100%	Excellent	High vigor and nearly perfect health with little or no twig dieback, discoloration, or defoliation.	Nearly ideal and free of defects	Nearly ideal for the species. Generally symmetric. Consistent with the intended use.
61% to 80%	Good	Vigor is normal for the species. No significant damage due to diseases or pests. Any twig dieback, defoliation, or discoloration is minor.	Well-developed structure. Defects are minor and can be corrected.	Minor asymmetries/ deviations from species norm. Mostly consistent with the intended use. Function and aesthetics are not compromised.
41% to 60%	Fair	Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/ or dead branches may comprise up to 50% of the crown.	A single defect of a significant nature or multiple moderate defects. Defects are not practical to correct or would require multiple treatments over several years.	Major asymmetries/ deviations from species norm and/or intended use. Function and/or aesthetics are compromised.
21% to 40%	Poor	Unhealthy and declining in appearance. Poor vigor. Low foliage density and poor foliage color are present. Potentially fatal pest infestation. Extensive twig and/ or branch dieback.	A single serious defect or multiple significant defects. Recent change in tree orientation. Observed structural problems cannot be corrected. Failure may occur at any time.	Largely asymmetric/ abnormal. Detracts from intended use and/or aesthetics to a significant degree.
6% to 20%	Very Poor	Poor vigor. Appears to be dying and in the last stages of life. Little live foliage.	Single or multiple severe defects. Failure is probable or imminent.	Visually unappealing. Provides little or no function in the landscape.
0% to 5%	Dead			

Abbreviations and Definitions

BDB	Branch dieback	Condition where branch tips or entire sections of branches die off. Typically indicative of tree stress.
CD	Codominant branches	Forked branches nearly the same size in diameter, arising from a common junction an lacking a normal branch union.
CDB	Dieback in Crown	Condition where branches in the tree crown die from the tips toward the center.
CR	Crowded	Tree is bounded closely by one or more of the following: structure, tree, Etc.
D	Decline	Tree shows obvious signs of decline, which may be indicative of the presence of multiple biotic and abiotic disorders.
DBH	Diameter at Breast Height	Measurement of tree diameter in inches. Measurement height varies by City and is noted above.
EG	Epicormic Growth	Watersprouting on trunk and main leaders or suckers, sprouts arising out of roots.Typically indicative of tree stress.
EH	Exposed Heartwood	Exposure of the tree's heartwood is typically seen as an open wound that leaves a tree more susceptible to pathogens, disease or infection.
GR	Girdling Roots	Roots that grow around or across other roots. Can cause restriction of nutrient and water uptake, swelling, dieback or structural instability.
HD	Headed	Poor pruning practice of cutting back branches. Often practiced under utility lines to limit tree height.
IB	Included Bark	Structural defect where bark is included between the branch attachment so the wood can't join. Such defect can have a higher probability of failure.
LN	Leaning Tree	Tree leaning, see notes for severity.
MT	Multi Trunk	Multiple central leaders originating below the DBH measurement.
SD	Structural Defects	Naturally or secondary conditions including cavities, poor branch attachments, cracks, or decayed wood in any part of the tree that may contribute to structural failure.
SR	Surface Roots	Roots visible at finished grade.
ST	Stress	Environmental factor inhibiting regular tree growth. Includes drought, salty soils, nitrogen and other nutrient deficiencies in the soil.
	Ordinance Tree	Ordinance-Size Trees.An ordinance-size tree is: Single Trunk - 38 inches or more in circumference at 4 ½ feet above ground; or Multi-trunk - The combined measurements of each trunk circumference (at 4 ½ feet above ground) add up to 38 inches or more.

TREE #	BOTANICAL NAME	COMMON NAME	DBH (INCHES)	CIRCUMF-ERENCE (INCHES)	ORDINANCE TREE	NATIVE/NON-NATIVE/ORCHARD	REPLACEMENT RATIO	CANOPY (APX FEET)	HEIGHT (APX FEET)	HEALTH %	STRUCTURE %	FORM %	NOTES
1	*Sequoia sempervirens*	Coast Redwood	37.0	116	YES	Native	5:1	24	43	65	70	70	EG
2	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	29.0	91	YES	Non-native	4:1	38	65	60	65	50	EG, BDB, SD, SR
3	*Sequoia sempervirens*	Coast Redwood	19,23	132	YES	Native	5:1	22	35	65	50	55	CD, CR, EG, SE
4	*Sequoia sempervirens*	Coast Redwood	22.5	71	YES	Native	5:1	20	35	65	70	65	CR, Curved trunk, EG
5	*Sequoia sempervirens*	Coast Redwood	19.0	60	YES	Native	5:1	18	35	60	70	65	EG, thin
6	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	28.5	89	YES	Non-native	4:1	40	34	60	65	50	EG, BDB, SD
7	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	27.0	85	YES	Non-native	4:1	45	32	60	65	50	EG, SD, EHW, SD, BDB
8	*Sequoia sempervirens*	Coast Redwood	32.5	102	YES	Native	5:1	27	40	65	70	65	EG, CR, BDB, possibly HD
9	*Sequoia sempervirens*	Coast Redwood	19.0	60	YES	Native	5:1	15	40	65	65	60	BDB ,CR, thin
10	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	19.5	61	YES	Non-native	4:1	38	25	60	65	50	LN, EG, SD, SR
11	*Lagerstroemia indica*	Crape Myrtle	1, 1, 1, 1.5, 1.5, 1.5, 1.5, 1.5, 2, 2, 2, 2, 2, 2.5, 2.5	80	YES	Non-native	4:1	8	12	70	80	70	EG, SD
12	*Liquidambar styraciflua*	Sweetgum	9.5	30	NO	Non-native	2:1	21	28	70	70	70	SD
13	*Eucalyptus camaldulensis*	Red Gum	37.5	118	YES	Non-native	4:1	40	38	70	60	60	SR, EG
14	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2.5, 1.5, 2, 3, 3	57	YES	Non-native	4:1	20	20	70	65	55	CR
15	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	20.0	63	YES	Non-native	4:1	35	40	60	60	50	CR vault, BDB, SD
16	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	26.0	82	YES	Non-native	4:1	38	40	60	60	50	SD, BDB
17	*Sequoia sempervirens*	Coast Redwood	35.0	110	YES	Native	5:1	28	50	65	65	65	CR, BDB, EG
18	*Sequoia sempervirens*	Coast Redwood	14.5	46	YES	Native	5:1	18	40	50	55	50	CR, BDB, thin
19	*Sequoia sempervirens*	Coast Redwood	24.0	75	YES	Native	5:1	15	50	0	0	0	Dead
20	*Sequoia sempervirens*	Coast Redwood	38.0	119	YES	Native	5:1	18	52	0	0	0	Dead

TREE #	BOTANICAL NAME	COMMON NAME	DBH (INCHES)	CIRCUMF-ERENCE (INCHES)	ORDINANCE TREE	NATIVE/NON-NATIVE/ORCHARD	REPLACEMENT RATIO	CANOPY (APX FEET)	HEIGHT (APX FEET)	HEALTH %	STRUCTURE %	FORM %	NOTES
21	*Sequoia sempervirens*	Coast Redwood	44.0	138	YES	Native	5:1	24	55	65	65	60	SD, BDB
22	*Sequoia sempervirens*	Coast Redwood	18.5	58	YES	Native	5:1	22	50	60	60	60	EG, CR
23	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	22.0	69	YES	Non-native	4:1	25	43	55	55	50	SD, BDB, EHW
24	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	29.0	91	YES	Non-native	4:1	30	35	60	55	50	SD, thin
25	*Fraxinus uhdei*	Shamel Ash	42.0	132	YES	Non-native	4:1	55	50	65	70	65	SD, CR
26	*Fraxinus uhdei*	Shamel Ash	45.0	141	YES	Non-native	4:1	55	50	65	70	65	SD, SR, CR
27	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	27.0	85	YES	Non-native	4:1	25	34	55	50	40	SD, BDB, EHW, thin, cracks
28	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	29.0	91	YES	Non-native	4:1	28	33	50	50	40	SD, EG, thin, cracks
29	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	39.0	122	YES	Non-native	4:1	45	35	60	50	40	SD, CDB, thin, cracks
30	*Liquidambar styraciflua*	Sweetgum	16.0	50	YES	Non-native	4:1	33	45	65	70	70	SD, decay, hollow
31	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	19.0	60	YES	Non-native	4:1	30	42	60	60	65	SD
32	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	12.0	38	NO	Non-native	2:1	25	38	60	65	50	SD
33	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	20.0	63	YES	Non-native	4:1	25	38	60	55	50	SD
34	*Fraxinus uhdei*	Shamel Ash	40.5	127	YES	Non-native	4:1	50	50	65	65	65	SD
35	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	28.0	88	YES	Non-native	4:1	25	28	50	50	40	SD, thin
36	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	28.0	88	YES	Non-native	4:1	35	32	55	50	50	SD, cracks
37	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	31.0	97	YES	Non-native	4:1	20	25	40	40	40	HD, SD, BDB
38	*Liquidambar styraciflua*	Sweetgum	15.5	49	YES	Non-native	4:1	18	35	70	70	70	LN, SD
39	*Liquidambar styraciflua*	Sweetgum	19.0	60	YES	Non-native	4:1	24	40	70	70	70	
40	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	23.5	74	YES	Non-native	4:1	23	28	60	50	40	SD, EG
41	*Liquidambar styraciflua*	Sweetgum	16.0	50	YES	Non-native	4:1	20	38	70	70	70	SD

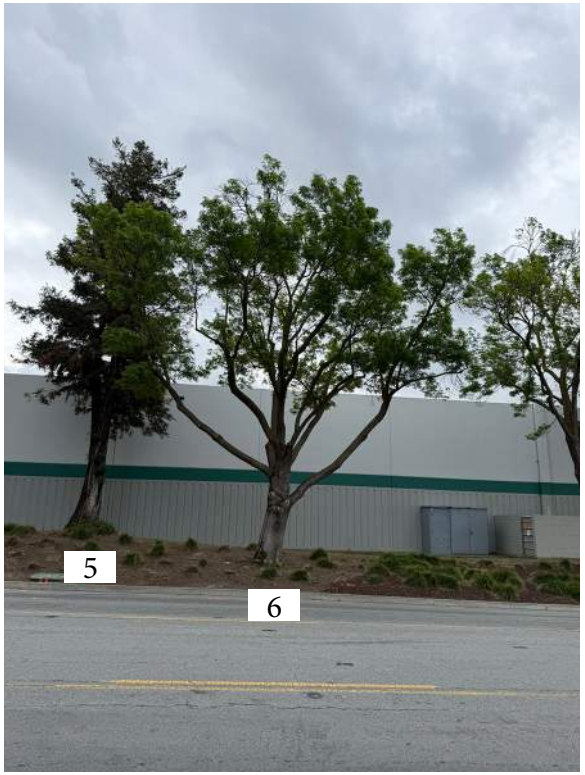
TREE #	BOTANICAL NAME	COMMON NAME	DBH (INCHES)	CIRCUMF-ERENCE (INCHES)	ORDINANCE TREE	NATIVE/NON-NATIVE/ORCHARD	REPLACEMENT RATIO	CANOPY (APX FEET)	HEIGHT (APX FEET)	HEALTH %	STRUCTURE %	FORM %	NOTES
42	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	29.0	91	YES	Non-native	4:1	20	25	60	55	40	SD, CDB
43	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	26.0	82	YES	Non-native	4:1	22	30	60	40	30	SD
44	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	18.0	57	YES	Non-native	4:1	25	28	60	45	40	SD, CDB
45	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	24.5	77	YES	Non-native	4:1	23	30	60	55	50	EG, SD, CDB
46	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	32.0	100	YES	Non-native	4:1	28	34	60	55	50	SD
47	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	27.0	85	YES	Non-native	4:1	27	27	60	55	55	EG, SD, CDB
48	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	36.0	113	YES	Non-native	4:1	32	35	60	60	55	EG, SD, CDB
49	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	23.0	72	YES	Non-native	4:1	18	28	50	40	30	SD, CDB
50	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	25.0	79	YES	Non-native	4:1	25	30	60	50	50	EG, SD, CDB
51	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	28.0	88	YES	Non-native	4:1	30	38	60	65	50	EG, SD
52	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	29.0	91	YES	Non-native	4:1	28	35	60	60	50	EG, SD, CDB
53	*Fraxinus angustifolia 'Raywood'*	Raywood Ash	30.0	94	YES	Non-native	4:1	33	37	60	60	50	EG, SD, CDB
54	*Lagerstroemia indica*	Crape Myrtle	3, 2.5, 2.5, 2.5, 2.5	41	YES	Non-native	4:1	18	23	70	65	65	
55	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2.5, 2.5, 2.5, 2.5, 2, 2	63	YES	Non-native	4:1	18	25	70	65	65	EHW, EG
56	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2, 2, 2	38	NO	Non-native	4:1	15	23	70	65	65	
57	*Lagerstroemia indica*	Crape Myrtle	3, 3, 3, 3, 2.5, 2.5	53	YES	Non-native	4:1	17	24	70	65	65	EHW, EG
58	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2.5, 2.5, 2.5, 2, 2, 1.5	60	YES	Non-native	4:1	16	23	70	65	65	EG
59	*Lagerstroemia indica*	Crape Myrtle	2.5, 2.5, 2.5, 2, 2, 2, 2, 2, 2, 2, 2	74	YES	Non-native	4:1	17	26	70	70	70	EG
60	*Lagerstroemia indica*	Crape Myrtle	2, 2, 2, 2, 1.5, 1.5, 1.5, 1.5	44	YES	Non-native	4:1	18	13	70	70	70	EG
61	*Lagerstroemia indica*	Crape Myrtle	2, 2, 2, 2, 2, 2, 2.5, 2.5	53	YES	Non-native	4:1	18	15	70	70	70	
62	*Lagerstroemia indica*	Crape Myrtle	3, 3, 3, 3.5, 3.5, 2.5, 2.5, 2.5, 2.5, 2.5, 2.5	97	YES	Non-native	4:1	18	21	70	70	70	
63	*Lagerstroemia indica*	Crape Myrtle	3.5, 3.5, 3, 3, 3, 3, 2.5, 2.5, 2.5, 2.5	91	YES	Non-native	4:1	16	25	70	70	70	

TREE #	BOTANICAL NAME	COMMON NAME	DBH (INCHES)	CIRCUMF-ERENCE (INCHES)	ORDINANCE TREE	NATIVE/NON-NATIVE/ORCHARD	REPLACEMENT RATIO	CANOPY (APX FEET)	HEIGHT (APX FEET)	HEALTH %	STRUCTURE %	FORM %	NOTES
64	*Lagerstroemia indica*	Crape Myrtle	3.5, 3.5, 3, 3, 3, 2.5, 2.5, 2.5, 2.5, 2.5, 2.5, 2	104	YES	Non-native	4:1	18	24	70	70	70	
65	*Lagerstroemia indica*	Crape Myrtle	4.5, 3, 3, 2.5, 2.5, 2.5, 2, 2	69	YES	Non-native	4:1	15	25	70	70	70	
66	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2.5, 2.5, 2.5, 2, 2, 2	61	YES	Non-native	4:1	13	23	70	70	70	
67	*Lagerstroemia indica*	Crape Myrtle	1.5, 1.5, 3, 3, 2.5, 2.5, 2.5, 2.5, 2.5, 2, 2, 2	86	YES	Non-native	4:1	15	25	70	70	70	
68	*Lagerstroemia indica*	Crape Myrtle	4.5, 3, 3.5	35	NO	Non-native	4:1	20	24	60	70	70	thin
69	*Lagerstroemia indica*	Crape Myrtle	3, 3, 2.5, 2.5, 2.5, 2.5	50	YES	Non-native	4:1	14	23	70	65	65	
70	*Lagerstroemia indica*	Crape Myrtle	4, 3.5, 3, 3, 2	49	YES	Non-native	4:1	16	23	70	65	65	
71	*Lagerstroemia indica*	Crape Myrtle	2.5, 2.5, 2, 2, 2, 2, 2, 1.5, 1.5	57	YES	Non-native	4:1	15	22	70	65	65	
72	*Lagerstroemia indica*	Crape Myrtle	2.5, 2, 2, 2, 2, 1.5, 1.5	42	YES	Non-native	4:1	12	23	70	65	65	


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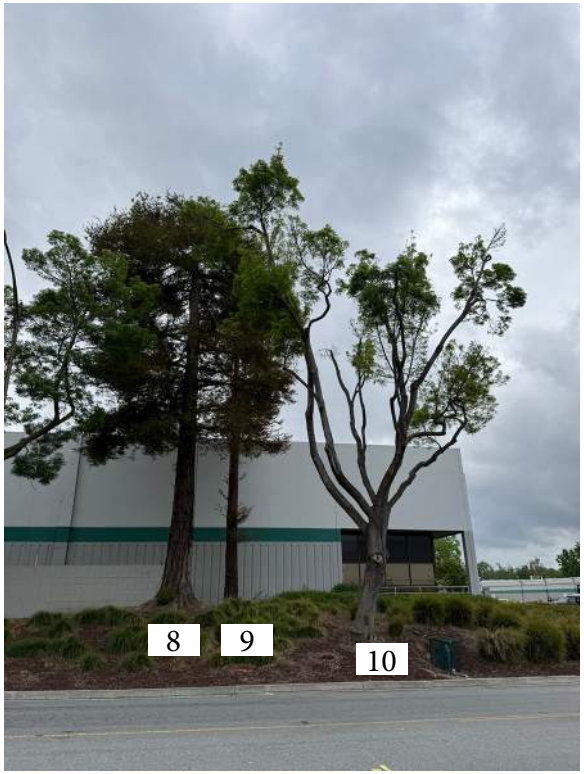

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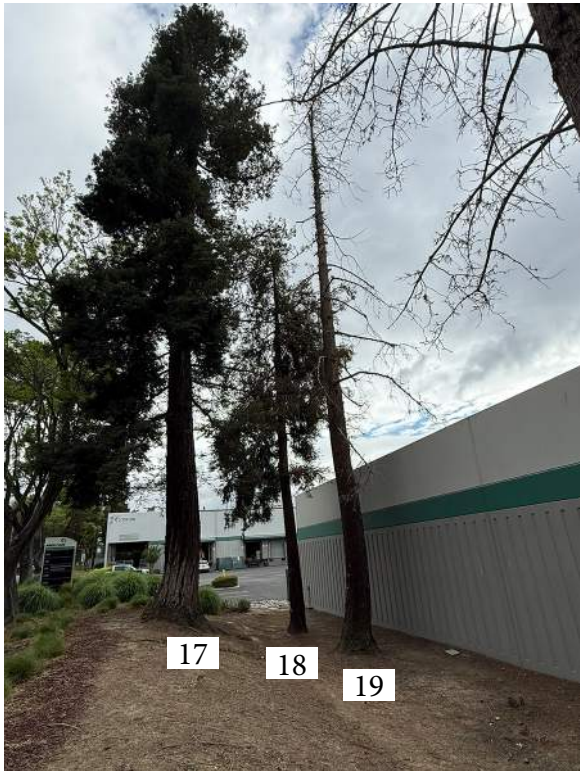


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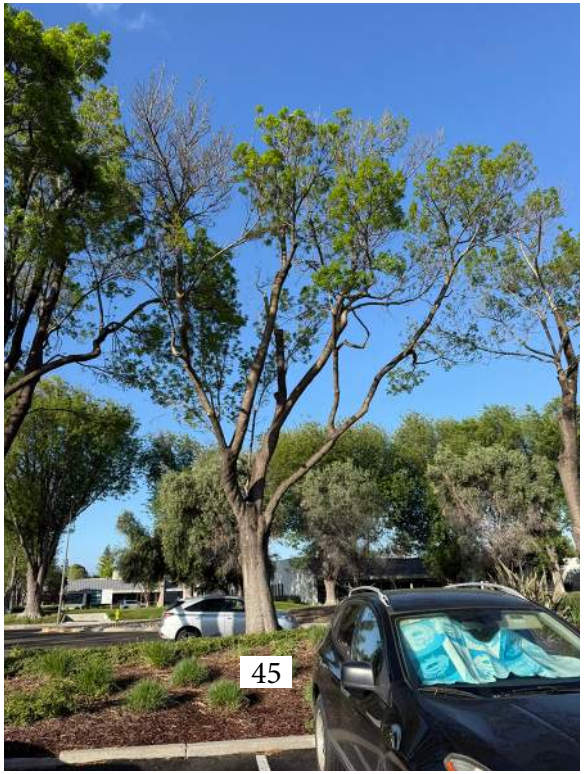

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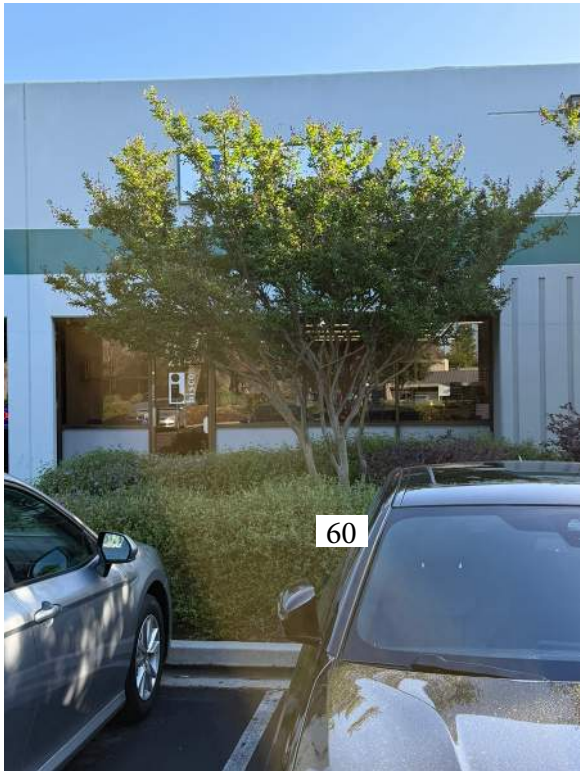

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