CITY OF PITTSBURGH
DEPARTMENT OF CITY PLANNING

ZONING & DEVELOPMENT REVIEW
ZBA REQUESTS SUPPLEMENT
Accela #DCP-ZDR-2020-06323

A. PROJECT INFORMATION

1. APPLICATION IS: ☒ Development Project ☐ Protest Appeal

2. STAFF REVIEW DATE: Click here to enter a date.

3. SITE INFORMATION

Development Address: 6315 Forbes Ave, Pittsburgh, PA 15217

Parcel ID(s)/Lot-and-Block Number(s): 0086-H-00069

Project Description: INSTALL GENERATOR AT REAR OF MULTI-UNIT DWELLING

3. CONTACT INFORMATION

Applicant Name: Eric Phillips

Applicant Contact (phone and email): 412-246-2839 ephillips@stradallc.com

B. ZBA HEARING INFORMATION

Zone Case #165 of 2020

Date of Hearing: Sep 10, 2020 Time of Hearing: 10:00 a.m.

Zoning Designation: RM-VH

Neighborhood: Squirrel Hill North

Zoning Specialist: Kyla Prendergast

C. ZBA REQUESTS

Type of Request Special Exception: Code Section: 916.06

Description: Waiver of Residential Compatibility Standards for noise from a generator; 45dB required, 60dB requested.

Type of Request: Choose an item. Code Section: Click here to enter text.

Description: Click here to enter text.

Type of Request: Choose an item. Code Section: Click here to enter text.

Description: Click here to enter text.

Type of Request: Choose an item. Code Section: Click here to enter text.

Description: Click here to enter text.

Type of Request: Choose an item. Code Section: Click here to enter text.

Description: Click here to enter text.

Parcel ID 0086-H-00069-0000-00
Property Address 6315 FORBES AVE
PITTSBURGH, PA 15217

Municipality 114 14th Ward - PITTSBURGH
Owner Name FORBES-DENNISTON LAND CO

Data displayed on this map is for informational purposes only. It is not survey accurate and is meant to only show a representation of property lines.

Print

Note: This button uses pop-ups. Please click help button for further printing instructions.

Parcel ID : 0086-H-00069-0000-00

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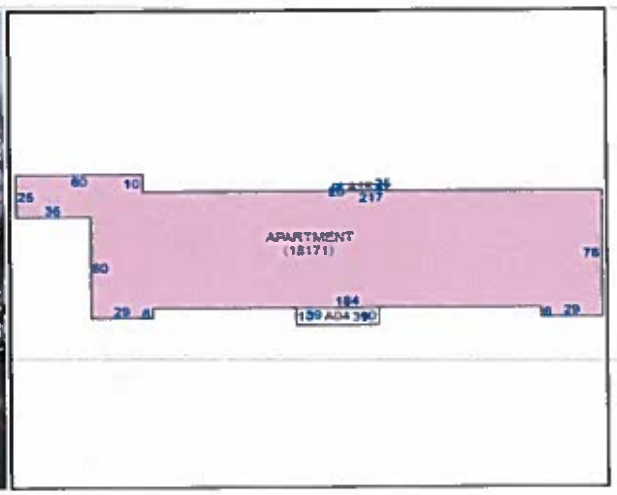

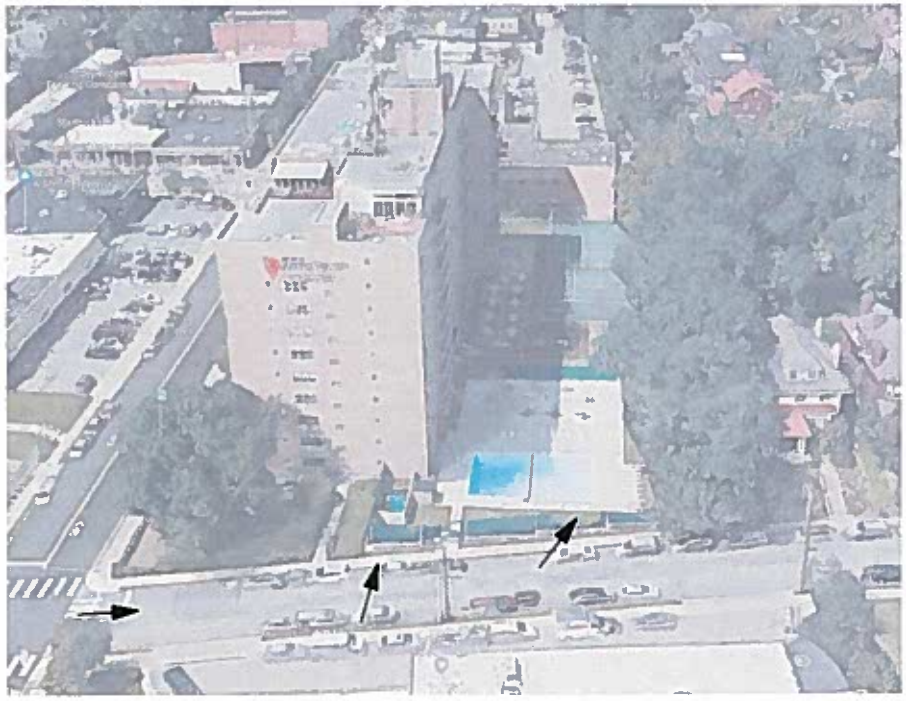

Maxon Towers Apartments **Owner:** Pittsburgh/Forbes Denniston Land Company

06/18/2020

Birdseye Site Diagrams and Photo Key

Strada

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Pittsburgh | Philadelphia

Sales and Service

SUBMITTAL
POWER GENERATION EQUIPMENT

PROJECT NAME: Maxon Towers
PROJECT #: TBD

MODEL(s): 450DFEJ
OTPC 400

CUSTOMER: Matuszak Electric
REFERENCE PO #: TBD

SUPPLIER: Cummins Sales and Service

DATE: 11/04/19

SALES REPRESENTATIVE: Matt Peters
412-820-8410
matt.peters@cummins.com

PROJECT MANAGER : Loretta Gould
412-820-8416
loretta.m.gould@cummins.com

Sales and Service

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A029Y876-G009 Power Electronics 1 Yr Comprehensive Warranty

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PSU-002 Pre-Start Up Checklist - Transfer Switch

Sales and Service

Submittal Notes

Maxon Towers

- **Warranties**
  - **Standard 3 Yr/1000 Hr**
  - **Power Electronics 1 Yr Comprehensive - G0010**
  - Warranty begins 18 months after shipment from the factory or completion of startup, whichever occurs first
- **Start-up**
  - Start-up performed during normal business hours
  - On-Site Load Bank Test
  - On-Site Personnel Training
  - Refer to pre start-up checklist
- **Additional Services & Accessories**
  - City of Pittsburgh Pressure Test
- **Project Notes**
  - All fuel by others
  - Design and construction of concrete pad by others
  - Shipped loose components installed by others
  - Offloading of equipment by others

Cummins Sales and Service

Section I

Specification sheet

Diesel generator set QSX15 series engine

450 kW – 500 kW Standby

Description

Cummins® commercial generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby and prime power applications.

Features

Cummins heavy-duty engine - Rugged 4-cycle, industrial diesel delivers reliable power, low emissions and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Permanent Magnet Generator (PMG) - Offers enhanced motor starting and fault clearing short-circuit capability.

Control system - The PowerCommand® electronic control is standard equipment and provides total genset system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Enclosures - Optional weather protective and sound attenuated enclosures are available.

Fuel tanks - Dual wall sub-base fuel tanks are also available.

NFPA - The genset accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

	Standby rating	Prime rating	Continuous rating	Data sheets
Model	60 Hz kW (kVA)	60 Hz kW (kVA)	60 Hz kW (kVA)	60 Hz
DFEJ	450 (563)	410 (513)		D-3400
DFEK	500 (625)	455 (569)		D-3401

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Generator set specifications

Governor regulation class	ISO 8528 part 1 Class G3
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
EMS compatibility	IEC 61000-4-2: Level 4 Electrostatic discharge IEC 61000-4-3: Level 3 Radiated susceptibility

Engine specifications

Design	Turbocharged with air-to-air charge air-cooling
Bore	136.9 mm (5.39 in.)
Stroke	168.9 mm (6.65 in.)
Displacement	14.9 L (912.0 in^3)
Cylinder block	Cast iron with replaceable wet liners, in-line 6 cylinder
Battery capacity	1400 Amps minimum at ambient temperature 0 °C (32 °F)
Battery charging alternator	35 Amps
Starting voltage	24 volt, negative ground
Fuel system	Full authority electronic (FAE) Cummins HPI-TP
Fuel filter	
Air cleaner type	
Lube oil filter type(s)	Single spin-on combination full flow and bypass filters
Standard cooling system	40 °C (104 °F) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip-proof revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible discs
Insulation system	Class H
Standard temperature rise	125 °C standby at 40 °C ambient
Exciter type	PMG (Permanent Magnet Generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50% per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3%

Available voltages

60 Hz Line – Neutral/Line - Line

- 110/190
- 110/220
- 115/200
- 115/230
- 120/208
- 127/220
- 139/240
- 220/380
- 230/400
- 240/416
- 255/440
- 277/480
- 347/600

Note: Consult factory for other voltages.

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Generator set options

Engine

- 208/240/480 V thermostatically controlled coolant heater for ambient above 4.5 °C (40°F)
- ✔ 208/240/480 V thermostatically controlled coolant heater for ambient below 4.5 °C (40°F)
- 120 V 300 W lube oil heater
- Heavy duty air cleaner with safety element

Alternator

- 80 °C rise
- 105 °C rise
- ✔ 125 °C rise
- 120/240 V 200 W anti-condensation heater

Exhaust system

- Critical grade exhaust silencer
- Exhaust packages
- Industrial grade exhaust silencer
- Residential grade exhaust silencer

Fuel system

- 1022 L (270 gal) sub-base tank
- ✔ 1136 L (300 gal) sub-base tank
- 1514 L (400 gal) sub-base tank
- 1893 L (500 gal) sub-base tank
- 2271 L (600 gal) sub-base tank
- 2498 L (660 gal) sub-base tank
- 3218 L (850 gal) sub-base tank
- 6435 L (1700 gal) sub-base tank
- 9558 L (2525 gal) sub-base tank

Cooling system

- High ambient 50 °C radiator

Control panel

- PC 3.3
- PC 3.3 with MLD
- 120/240 V 100 W control anti-condensation heater
- Ground fault indication
- Remote fault signal package
- ✔ Run relay package

Generator set

- AC entrance box
- ✔ Battery
- ✔ Battery charger
- Export box packaging
- ✔ UL 2200 Listed
- ✔ Main line circuit breaker
- Paralleling accessories
- ✔ Remote annunciator panel
- Spring isolators
- ✔ Enclosure: ~~aluminium,~~ steel, ~~weather-protective or~~ sound attenuated
- ✔ 2 year standby power warranty
- 2 year prime power warranty
- 5 year basic power warranty
- 10 year major components warranty

*Note: Some options may not be available on all models - consult factory for availability.

Control system 2.3

The PowerCommand 2.3 control system - An integrated generator set control system providing voltage regulation, engine protection, generator protection, operator interface and isochronous governing (optional).

Control – Provides battery monitoring and testing features and smart-starting control system.

InPower™ – PC-based service tool available for detailed diagnostics.

PCCNet RS485 – Network interface (standard) to devices such as remote annunciator for NFPA 110 applications.

Control boards – Potted for environmental protection.

Ambient operation – Suitable for operation in ambient temperatures from -40 °C to +70 °C and altitudes to 13,000 feet (5000 meters). Prototype tested - UL, CSA and CE compliant.

AC protection

- AmpSentry protective relay
- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload
- Overload warning
- Reverse kW shutdown
- Reverse Var shutdown
- Short circuit protection

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown

Operator/display panel

- Manual off switch
- 128 x 128 Alpha-numeric display with push button access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating genset running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -20 °C to +70 °C

Alternator data

- Line-to-Neutral AC volts
- Line-to-Line AC volts
- 3-phase AC current
- Frequency
- kVA, kW, power factor

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature

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Control functions

- Time delay start and cool down
- Glow plug control (some models)
- Cycle cranking
- PCCNet interface
- (4) Configurable inputs
- (4) Configurable outputs
- Remote emergency stop
- Battle short mode
- Load shed
- Real time clock with exerciser
- Derate

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase Line-to-Line sensing
- Configurable torque matching
- Fault current regulation under single or three phase fault conditions

Other data

- Genset model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)
- Total kilowatt hours
- Load profile

Options

- ✓ Auxiliary output relays (2)
- 120/240 V, 100 W anti-condensation heater
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand for Windows® remote monitoring software (direct connect)
- AC output analogue meters
- ✓ PowerCommand 2.3 ~~and 3.3~~ control with AmpSentry protection

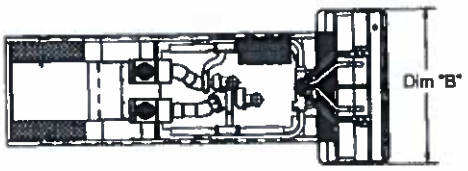
For further detail on PC 2.3 see document S-1569.
For further detail on PC 3.3 see document S-1570.

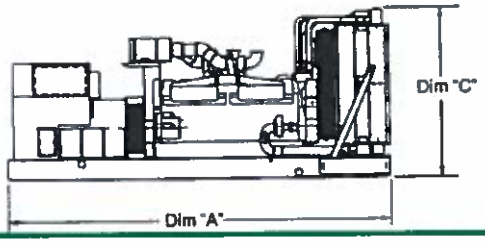
Emergency Standby Power (ESP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time running Power (LTP):
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):
Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.





This outline drawing if for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Model	Dim 'A' mm (in.)	Dim 'B' mm (in.)	Dim 'C' mm (in.)	Set weight dry* kg (lbs)	Set weight wet* kg (lbs)
DFEJ	3864 (152.1)	1524 (60.0)	1812 (71.3)	~~4098 (9035)~~	~~4284 (9035)~~
DFEK	3864 (152.1)	1524 (60.0)	1812 (71.3)	4325 (9535)	4461 (9835)

*Weights represent a set with standard features. See outline drawings for weights of other configurations.

Refer to drawings for specific weights & dimensions

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Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.		The generator set is available listed to UL 2200, Stationary Engine Generator Assemblies for all 60 Hz low voltage models. The PowerCommand control is Listed to UL 508 - Category NITW7 for U.S. and Canadian usage. Circuit breaker assemblies are UL 489 Listed for 100% continuous operation and also UL 869A Listed Service Equipment.
	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.	**U.S EPA**	Engine certified to Stationary Emergency U.S. EPA New Source Performance Standards, 40 CFR 60 subpart IIII Tier 2 exhaust emission levels. U.S. applications must be applied per this EPA regulation.
	All low voltage models are CSA certified to product class 4215-01.	**International Building Code**	The generator set package is available certified for seismic application in accordance with the following International Building Code: IBC2000, IBC2003, IBC2006, IBC2009 and IBC2012.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

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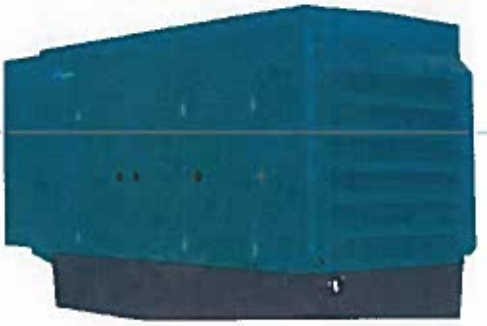
S-1582 (08/17)

Specification Sheet

Enclosures and Tanks

250-1000 kW Gensets



Enclosure Standard Features

- 14-gauge steel construction (panels)
- Stainless steel hardware
- Zinc phosphate pretreatment, e-coat primer and super durable powder topcoat paint minimize corrosion and color fade
- Package listed to UL 2200
- Designed to satisfy national electrical code installation requirements
- Fuel and electrical stub-up area within enclosure perimeter
- Fixed louvers
- Cambered roof prevents water accumulation
- Recessed, lockable doors in two sides
- Retainers hold doors open for easy access
- Enclosed exhaust silencer ensures safety and protects against rust
- Rain cap
- Exterior oil and coolant drains with interior valves for ease of service
- Rodent barriers on inlet
- Non-hydroscopic sound attenuating material
- Side mounted controls and circuit breakers
- Easy access lifting points for spreader bars
- Dual vibration isolation system (250-500 kW)
- Spring vibration isolation system (600-1000 kW)
- Enclosure mounts to lifting base or fuel tank (250-500 kW)
- Enclosure mounts to lifting base (600-1000 kW)
- Factory pre-assembled package
- Designed for outdoor use only
- Externally mounted emergency stop button for operator safety (optional on 250-500 kW)
- Horizontal air discharge to prevent leaf and snow accumulation (600-1000 kW)

Options

- Three levels of sound attenuation
- Motorized louvers to protect from ice and snow accumulation (available on air inlet for all models and on air outlet on level II, 250-500 kW enclosures only)
- Horizontal air discharge, sound level 2 only (250-500 kW)
- Aluminium construction with roll-coated polymer paint
- Wind rated to 150 mph
- Neutral sandstone paint color
- Factory mounted battery charger
- External 120 VAC service outlet
- Rain hoods for air inlet (250-500 kW)
- Lifting base in lieu of a sub-base tank (250-500 kW)
  - Pre-wired AC distribution package
  - 100 amp (250-500 kW) or 150 amp (600-1000 kW) main circuit breaker; connected to 120 VAC Line-Neutral and 208 or 240 VAC Line-Line, spare breaker positions and capacity for future upgrades (600-1000 kW)
  - GFCI protected internal 120 VAC service receptacle
  - GFCI protected weather proof external 120 volt service receptacle
  - All factory installed AC powered features pre-wired into load center
- Interior lights – 120 volt (600-1000 kW)
- Rain hoods for air inlet (250-500 kW)
- Seismic isolators available (600-1000 kW)

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Fuel Tanks

Standard sub-base tank features

- UL 142 Listed
- ULC-S601-07 Listed
- NFPA37 compliant
- Dual walled, steel construction
- Emergency tank and rupture basin vents
- Tank mounted mechanical fuel gauge
- Fuel supply and return tubes
- Top mounted leak detection float switch
- Low and high level fuel switches
- Mounting brackets for optional pump and control (250-500 kW)
- Integral lifting points

Sub-base tank options

- Pre-wired fuel pump and control
- Fuel overfill alarm – internal or external
- Overflow and tank fill plugs
- Five gallon spill fill box – internal or external
- Fill pipe extender
- Local code approvals available

200-500 kW Dual Wall Sub-base Fuel Tanks – usable operating hours

Genset model (60 Hz)	Gallons /hour at full load	270 gallon tank	300 gallon tank	400 gallon tank	500 gallon tank	600 gallon tank	660 gallon tank	720 gallon tank	850 gallon tank	1420 gallon tank	1470 gallon tank	1700 gallon tank	2050 gallon tank	2525 gallon tank
250 DQDAA	20	14	15	20	25	30	33	36		72	74		104	
275 DQDAB	21	13	14	19	24	29	31	34		66	70		96	
300 DQDAC	23	12	13	17	22	26	29	31		61	64		88	
300 DQHAB	23	12	13	17	22	26	29		37			74		
450 DFEJ	30	9	10	13	17	20	22		28			57		84
500 DFEK	34	8	9	11	15	18	19		25			50		74

Operating hours are measured at 60 Hz, standby rating.

600-1000 kW Dual Wall Sub-base Fuel Tanks – usable operating hours

Genset model	Gallons /hour at full load	200 gallon tank	660 gallon tank	1000 gallon tank	1500 gallon tank	2000 gallon tank	2400 gallon tank
600 DQCA	42	5	16	24	36	48	57
600 DQPAA	45	4	15	22	33	44	53
650 DQPAB	50	4	13	20	30	40	48
750 DQCB	51	4	13	20	29	39	47
750 DQFAA	53	4	12	19	28	38	45
800 DQCC	53	4	12	19	28	38	45
800 DQFAB	56	4	12	18	27	36	43
900 DQFAC	64	3	10	16	23	31	38
1000 DQFAD	72	3	9	14	21	28	33

*3000 gallon tank offered as an accessory kit – refer to NAAC-5853 spec sheet.

- Operating hours are measured at 60 Hz, standby rating.
- Up to 90% fill alarm to comply with NFPA30, operating capacity is reduced by 10%.

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Enclosure Package Sound Pressure Levels @ 7 meters dB(A)

Genset model	Weather protective enclosure (F200, F203)	QuietSite level 1 sound attenuated enclosure (F201, F204)	QuietSite level 2 sound attenuated enclosure (F202, F205)
250 DQDAA	90	88	72
275 DQDAB	90	88	73
300 DQDAC	90	88	73
300 DQHAB	89	88	76
450 DFEJ	88	85	74
500 DFEK	89	87	73
600 DQCA	90.6/86*	79.3/78*	74.1/73*
600 DQPAA	89.10	80.70	74.70
650 DQPAB	89.70	81.40	75
750 DQCB	91.1/87*	79.9/79*	75.3/74*
750 DQFAA	87.8	77.8	73.8
800 DQCC	91.3/87*	80.2/79*	75.7/74*
800 DQFAB	88.1	78.3	74
900 DQFAC	88.8	79.1	74.6
1000 DQFAD	89.6	80.1	75.3

- All data is 60 Hz, full load standby rating, steel enclosures only.
- Data is a measured average of 8 positions.
- Sound levels for aluminium enclosures are approximately 2 dB(A) higher than listed sound levels for steel enclosures.
* Sound data with seismic feature codes L228-2 (IBC) and/or L225-2 (OSHPD)

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Package Dimensions of Enclosure, Exhaust System, and UL Tank

250-500 kW

Tank size (gal)	Weather protective package length (in)	QuietSite level I package length (in)	QuietSite level 2 package length (in)	Width (in)	Height (in)	Weather protective package weight (lbs)	QuietSite level 1 package weight (lbs)	QuietSite level 2 package weight (lbs)
270	188	188	222	82	106	4991	5471	6711
300	188	188	222	82	104	5648	6073	6991
400	188	188	222	82	106	5833	6258	7176
500	188	188	222	82	108	5956	6381	7299
600	188	188	222	82	111	6118	6541	7459
660	188	188	222	82	113	6235	6660	7578
720	188	188	222	82	114	6174	6599	7517
850	188	188	222	82	118	6529	6954	7872
1420	200	200	222	82	128	6863	7343	8583
1470	192	192	222	82	128	7253	7733	8973
1700	234	234	234	82	128	7982	8407	9325
2050	284	284	284	82	128	8383	8863	10103
2525	346	346	346	82	128	9391	9871	11111
Lifting base	188	188	222	82	100	4335	4760	5678

600-1000 kW

Tank size (gal)	Weather protective package length (in)	QuietSite level I package length (in)	QuietSite level 2 package length (in)	Width (in)	Height (in)	Weather protective package weight (lbs)	QuietSite level 1 package weight (lbs)	QuietSite level 2 package weight (lbs)
200	260	303	315	98	137	10194	13074	14954
660	260	303	315	98	137	9586	12466	14346
1000	260	303	315	98	141	10117	12997	14877
1500	260	303	315	98	146	10677	13557	15437
2000	292	327	327	98	143	11959	14839	16719
2400	338	338	338	98	143	12961	15841	17721

- This weight does not include the generator set. Consult your local Cummins distributor or the appropriate generator specification sheet.
- Width is 86" lifting eye to lifting eye (250-500 kW), 102" lifting eye to lifting eye (600-1000 kW).
- Height - Florida, Michigan, and Suffolk add 6.4" (250-500 kW) or 2" (600-1000 kW) for bottom space.
- Maximum length emergency vent removed.

Refer to drawings for specific weights & dimensions

CSA	CSA - The generator set is CSA certified to product class 4215-01.
UL	UL - The generator set is available listed to UL 2200, stationary engine generator assemblies. The PowerCommand® control is listed to UL 508 - Category NITW7 for U.S. and Canadian usage.

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™

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S-1443 (11/18)

Generator set data sheet

Model:	**DFEJ**
Frequency:	**60 Hz**
Fuel type:	**Diesel**
kW rating:	**450 Standby**
	410 Prime
Emissions level:	**EPA NSPS Stationary Emergency Tier 2**

Exhaust emission data sheet:	**EDS-184**
Exhaust emission compliance sheet:	**EPA-1025**
Sound performance data sheet:	**MSP-183**
Cooling performance data sheet:	**MCP-106**
Prototype test summary data sheet:	**PTS-145**
Standard set-mounted radiator cooling outline:	**0500-3326**
Optional set-mounted radiator cooling outline:	
Optional heat exchanger cooling outline:	
Optional remote radiator cooling outline:	

Fuel consumption	**Standby**				**Prime**				**Continuous**
	kW (kVA)				**kW (kVA)**				**kW (kVA)**
Ratings	450 (563)				410 (513)				
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**Full**
US gph	10.8	17.4	23.4	30.1	10.2	16.2	21.9	27.7	
L/hr	41	66	89	114	39	61	83	105	

Engine	**Standby rating**	**Prime rating**	**Continuous rating**
Engine manufacturer	Cummins Inc.		
Engine model	QSX15-G9		
Configuration	Cast iron with replaceable wet cylinder liners, In-Line 6 cylinder		
Aspiration	Turbocharged and air-to-air after-cooled		
Gross engine power output, kW_m (bhp)	563.0 (755.0)	507.3 (680.0)	
BMEP at set rated load, kPa (psi)	2192.5 (318.0)	2006.4 (291.0)	
Bore, mm (in.)	136.9 (5.39)		
Stroke, mm (in.)	168.9 (6.65)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	10.1 (1995.0)		
Compression ratio	17.0:1		
Lube oil capacity, L (qt)	83.3 (88.0)		
Overspeed limit, rpm	2150 ± 50		
Regenerative power, kW	52.00		

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* Please note the actual calculated sound level at the property line will be 60DBA

Sound pressure level @ 7 meters, dB(A)

See notes 1-8 listed below

Configuration		Measurement location number								Average
		1	2	3	4	5	6	7	8	
Standard – unhoused	Infinite exhaust	89	92	92	91	88	91	91	93	91
F183 – residential muffler	Mounted muffler	87	90	90	88	87	88	87	90	89
F200 – weather	Mounted muffler	88	89	84	87	89	87	84	90	88
F201 – quiet site II first stage	Mounted muffler	87	88	83	82	78	80	82	89	85
F202 – quiet site II second stage	Mounted muffler	73	73	72	74	75	75	75	74	74

Sound power level, dB(A)

See notes 2-6, 9, 10 listed below

Configuration		Octave band center frequency (Hz)								Overall sound power level
		63	125	250	500	1000	2000	4000	8000	
Standard – unhoused	Infinite exhaust	85	100	103	110	112	113	108	105	118
F183 – residential muffler	Mounted muffler	104	114	113	110	108	107	101	103	119
F200 – weather	Mounted muffler	102	108	104	108	110	109	106	101	116
F201 – quiet site II first stage	Mounted muffler	102	108	104	107	109	107	105	98	115
F202 – quiet site II second stage	Mounted muffler	83	92	95	99	97	99	96	90	104

Exhaust sound power level, dB(A)

Open exhaust (no muffler) @ rated load	Octave band center frequency (Hz)								Overall sound pressure level
	63	125	250	500	1000	2000	4000	8000	
	103	119	125	123	125	126	127	121	133

Note:

1. Position 1 faces the engine front. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All positions are at 7 m (23 ft) from the surface of the generator set and 1.2 m (48 in.) from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Sound data with remote-cooled generator sets are based on rated loads without cooling fan noise.
4. Sound levels for aluminum enclosures are approximately 2 dB(A)s higher than listed sound levels for steel enclosures.
5. Sound data for generator set with infinite exhaust do not include exhaust noise.
6. Data is based on full rated load with standard radiator-cooling fan package.
7. Sound pressure levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
8. Reference sound pressure is 20 μPa.
9. Sound power levels per ISO 3744 and ISO 8528-10, as applicable.
10. Reference power = 1 pw (10^{-12} W).
11. Exhaust sound power levels are per ISO 6798, as applicable.

PTC® Creo® Parametric

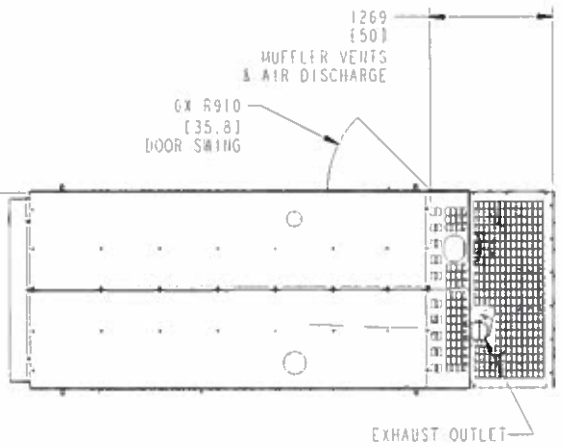
TABULATION

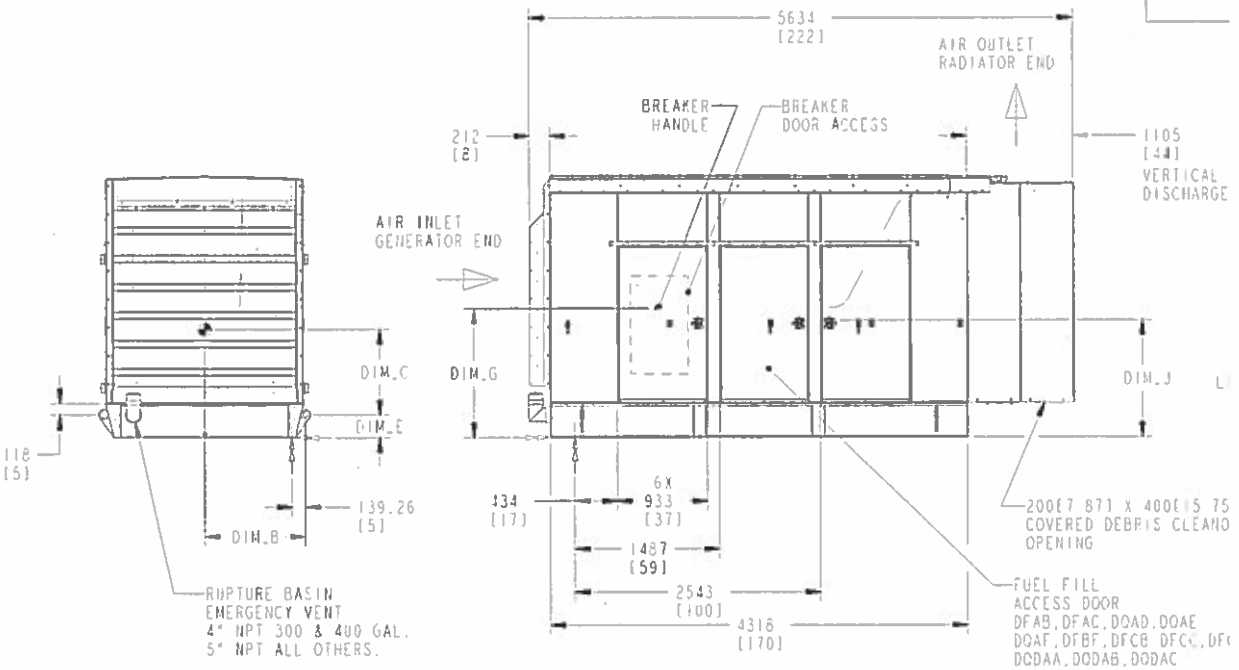
TANK/LIFT BASE FEATURE CODE	TANK CAPACITY	TANK WEIGHT DRY KG (LBS)	DIM_D	DIM_E	DIM_F	DIM_H	DIM_I	DIM_J	DIM_K
C201	300	1060 (2338)	2643 (104)	183 (7.2)	305 (12)	526 (20.7)	1126 (44.3)	1122 (44.2)	614.7 (24.2)
C202/C242	400	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C203	500	1171 (2584)	2743 (108)	284 (11.2)	406 (16)	627 (24.7)	1228 (48.3)	1224 (48.2)	716.3 (28.2)
C204	600	1253 (2765)	2819 (111)	361 (14.2)	483 (19)	704 (27.7)	1304 (51.3)	1300 (51.2)	792.5 (31.2)
C205	660	1295 (2857)	2856 (112.5)	399 (15.7)	521 (20.5)	742 (29.2)	1343 (52.8)	1339 (52.7)	830.6 (32.7)
C206	720	1275 (2814)	2895 (114)	437 (17.2)	559 (22)	780 (30.7)	1381 (54.3)	1377 (54.2)	868.7 (34.2)
C207	850	1445 (3189)	2997 (118)	539 (21.2)	660 (26)	881 (34.7)	1481 (58.3)	1478 (58.2)	970.3 (39.2)
F2T4	NA	NA	2540 (100)	81 (3.2)	203 (8)	424 (16.7)	1024 (40.3)	1021 (40.2)	513.1 (20.2)

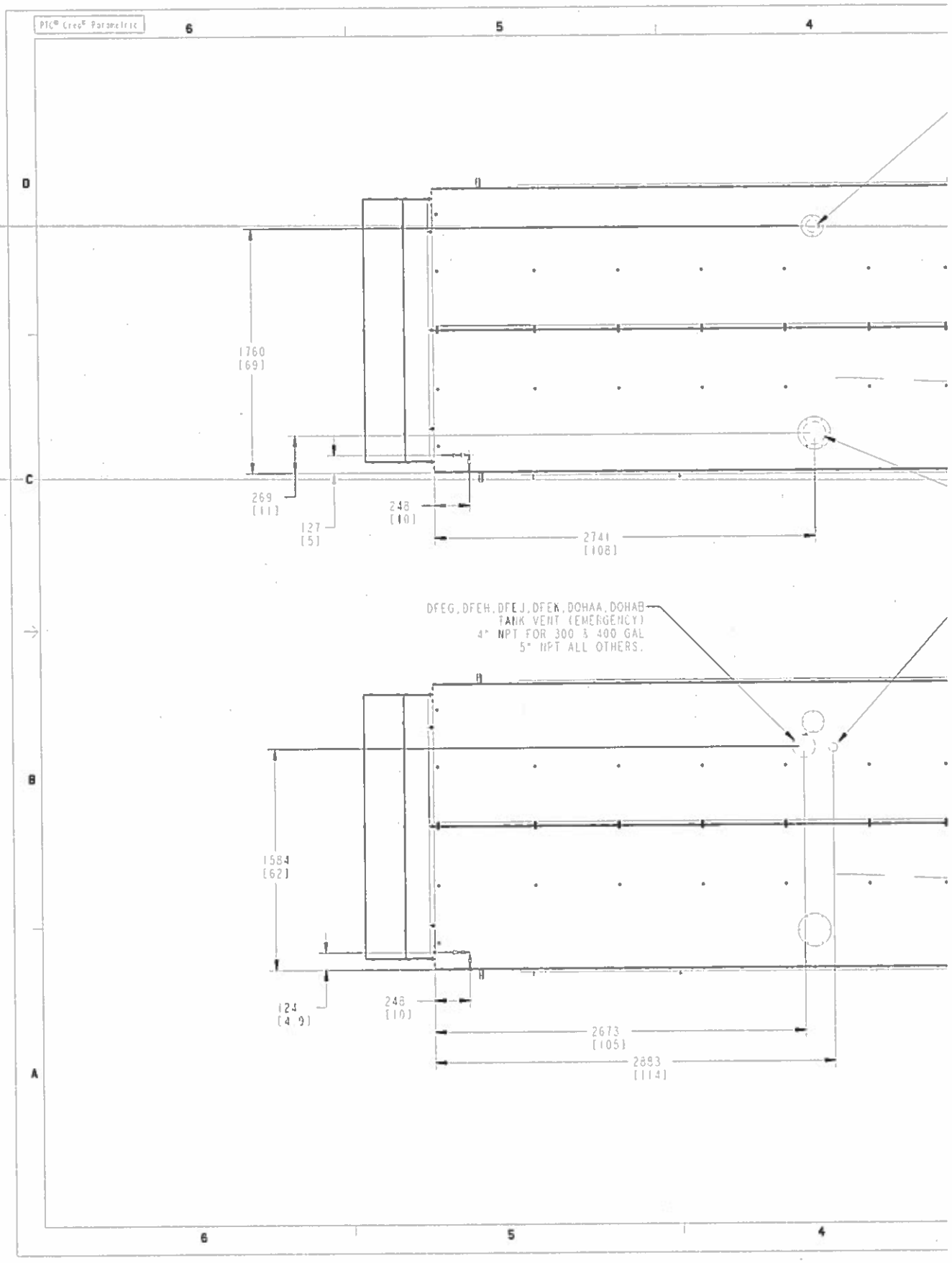
TANK/LIFT BASE FEATURE CODE	TA CAPA
C201	3
C202/C242	400
C203	5
C204	6
C205	6
C206	7
C207	8
F2T4	N

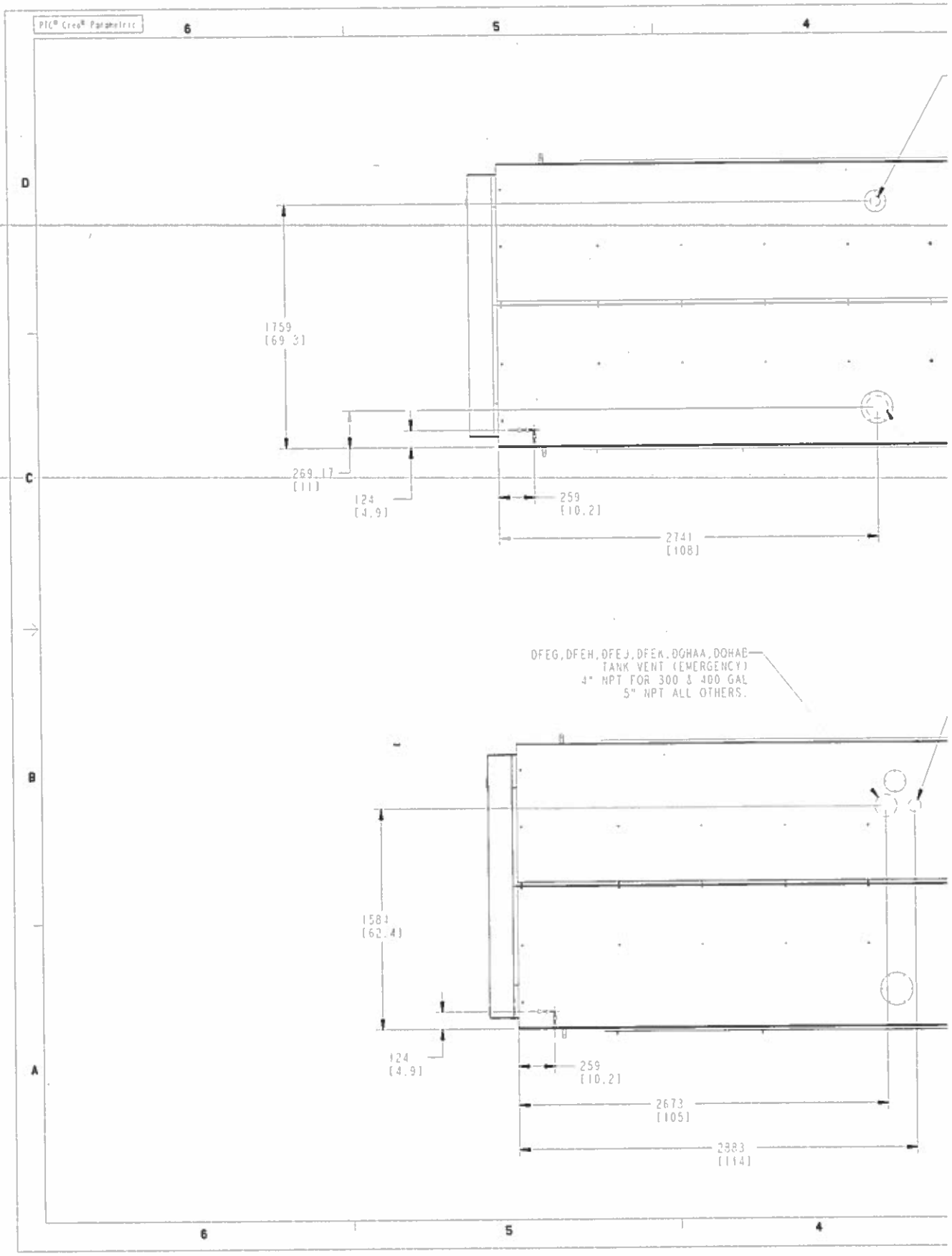
MODEL	
DFAB	2
DFAC	2
DQAD	2
DQAE	2
DQAF	3
DFBF	2
DFCB	3
DFCC	3
DFCE	4
DFEG	3
DFEH	[illegible]
DFEJ	2
DFEK	3
DQDAA	2
DQDAB	2
DQDAC	3
DQHAA	2
DQHAB	3

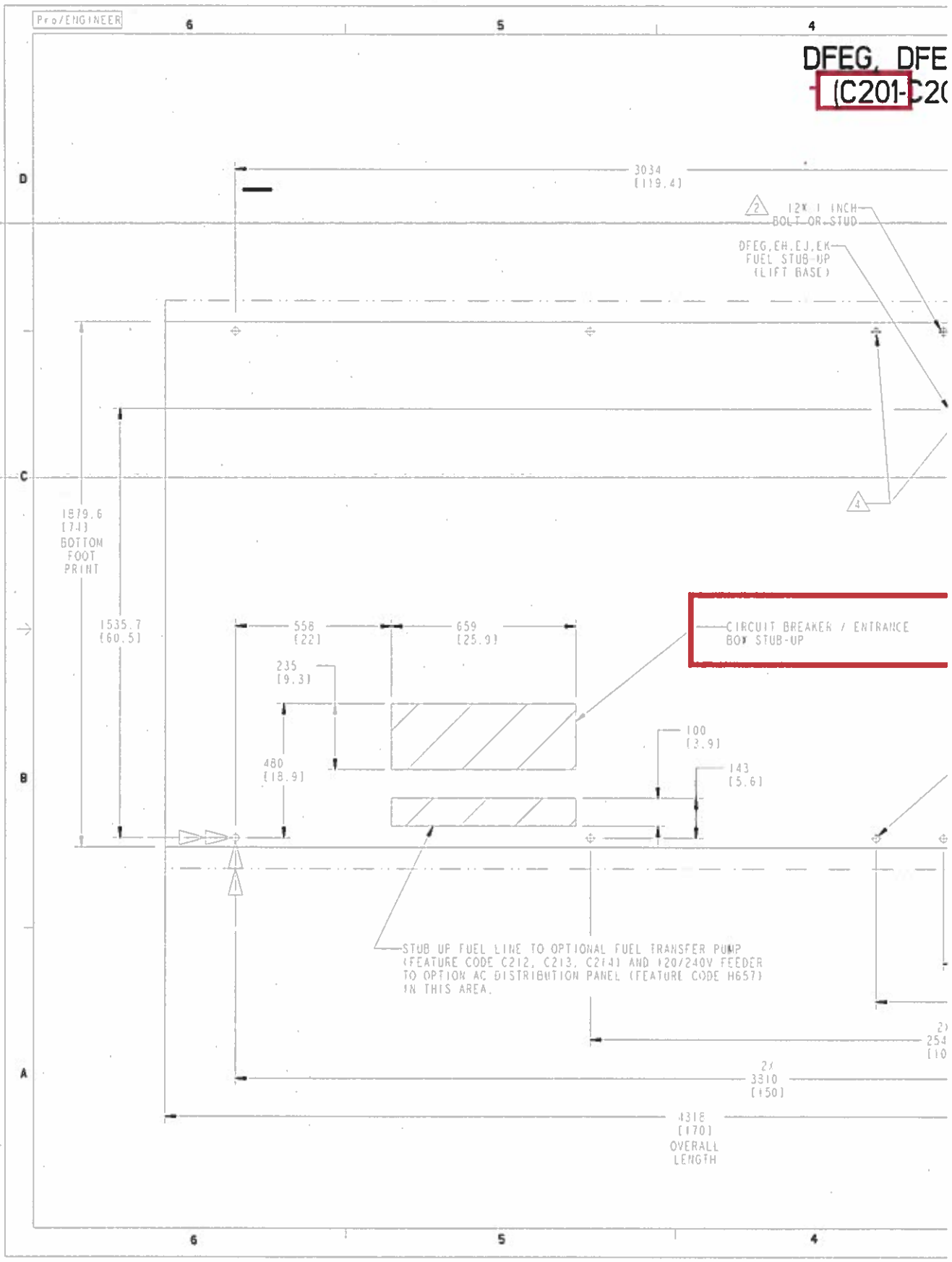
OPTIONAL FEATURE
F202,F205

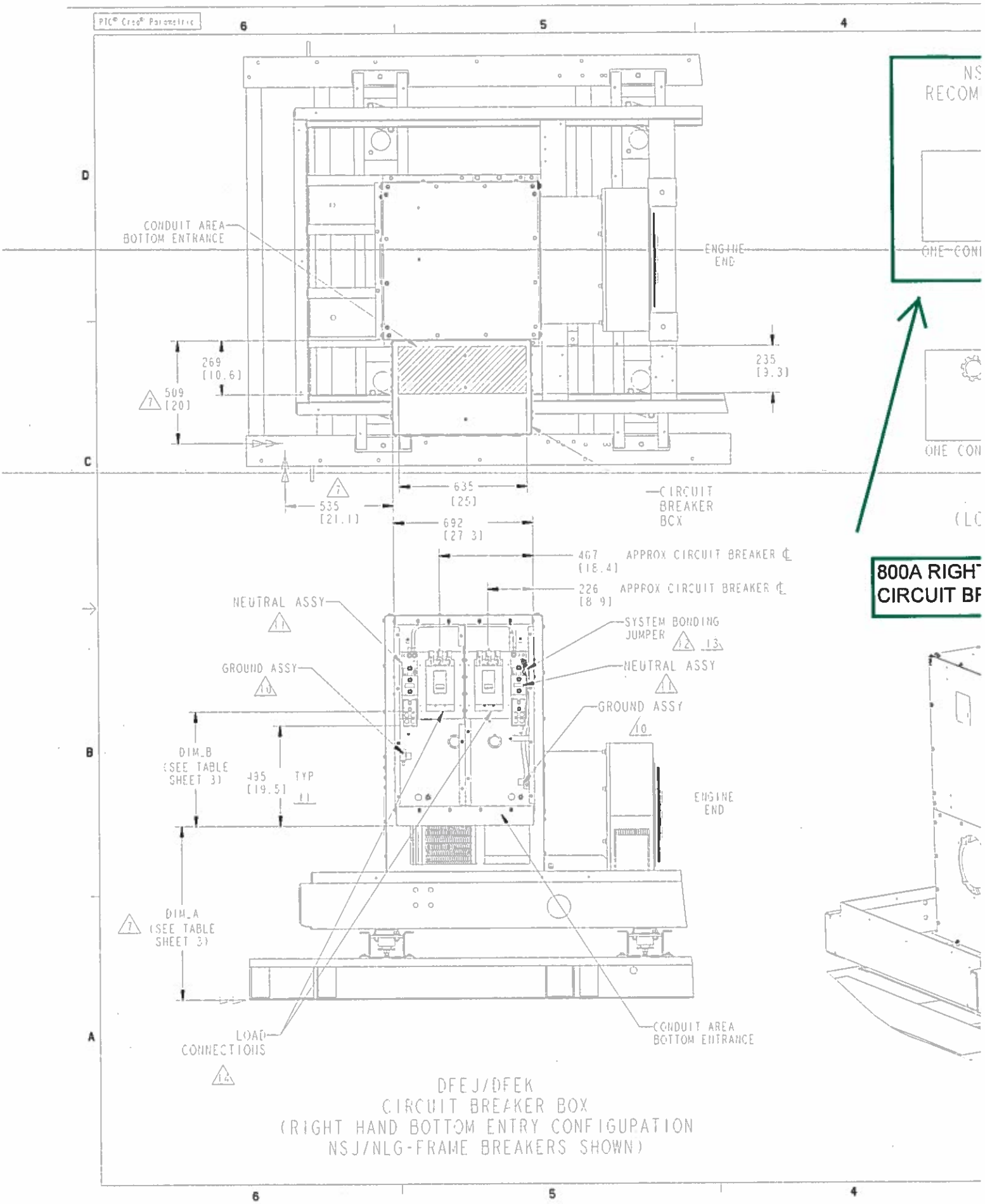


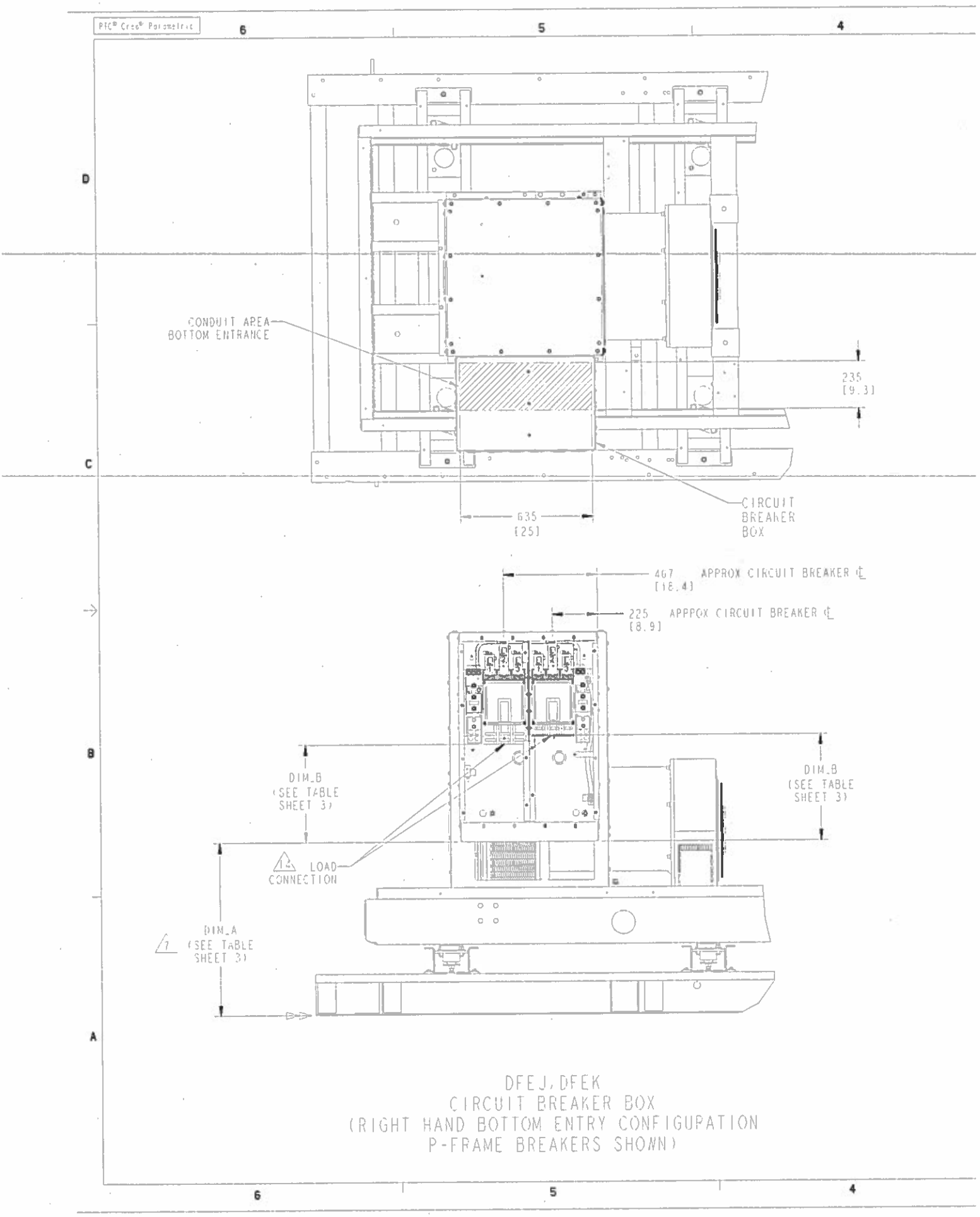



PTC® Creo® Parametric
6
5
4
D
C
B
A
1760
[69]
269
[11]
127
[5]
248
[10]
2741
[108]
DFEG, DFEH, DFEJ, DFEK, DOHAA, DOHAB
TANK VENT (EMERGENCY)
4" NPT FOR 300 & 400 GAL
5" NPT ALL OTHERS.
1584
[62]
124
[4.9]
248
[10]
2673
[105]
2893
[114]


PTC® Creo® Parametric
1759
[69.3]
269.17
[11]
124
[4.9]
259
[10.2]
2741
[108]
DFEG,DFEH,DFEJ,DFEK,DOHAA,DOHAB
TANK VENT (EMERGENCY)
4" NPT FOR 300 & 400 GAL
5" NPT ALL OTHERS.
1583
[62.4]
124
[4.9]
259
[10.2]
2673
[105]
2883
[114]


Pro/ENGINEER
DFEG, DFE
(C201-C20
3034
[119.4]
12X 1 INCH
BOLT OR STUD
DFEG,EH,EJ,EK
FUEL STUB-UP
(LIFT BASE)
1879.6
[74]
BOTTOM
FOOT
PRINT
1535.7
[60.5]
558
[22]
659
[25.9]
235
[9.3]
480
[18.9]
CIRCUIT BREAKER / ENTRANCE
BOX STUB-UP
100
[3.9]
143
[5.6]
STUB UP FUEL LINE TO OPTIONAL FUEL TRANSFER PUMP
(FEATURE CODE C212, C213, C214) AND 120/240V FEEDER
TO OPTION AC DISTRIBUTION PANEL (FEATURE CODE H657)
IN THIS AREA.
2X
3310
[130]
4318
[170]
OVERALL
LENGTH


CONDUIT AREA
BOTTOM ENTRANCE
ENGINE
END
269
[10.6]
509
[20]
235
[9.3]
635
[25]
535
[21.1]
692
[27.3]
CIRCUIT
BREAKER
BOX
467
[18.4]
APPROX CIRCUIT BREAKER ℄
226
[8.9]
APPROX CIRCUIT BREAKER ℄
NEUTRAL ASSY
SYSTEM BONDING
JUMPER
GROUND ASSY
NEUTRAL ASSY
GROUND ASSY
DIM_B
(SEE TABLE
SHEET 3)
495
[19.5]
TYP
ENGINE
END
DIM_A
(SEE TABLE
SHEET 3)
LOAD
CONNECTIONS
CONDUIT AREA
BOTTOM ENTRANCE
DFEJ/DFEK
CIRCUIT BREAKER BOX
(RIGHT HAND BOTTOM ENTRY CONFIGURATION
NSJ/NLG-FRAME BREAKERS SHOWN)
800A RIGH
CIRCUIT BR



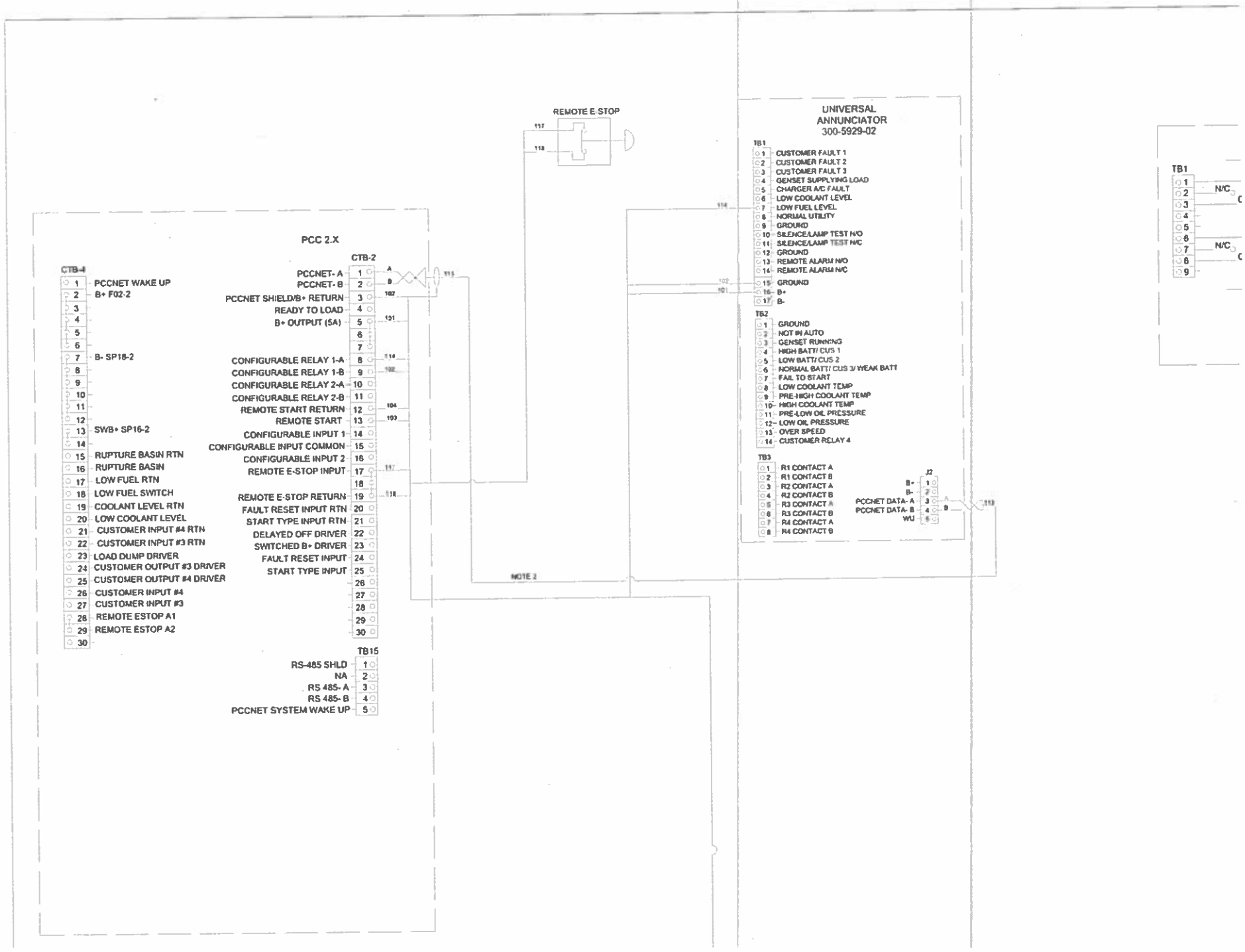
DFEJ, DFEK
CIRCUIT BREAKER BOX
(RIGHT HAND BOTTOM ENTRY CONFIGURATION
P-FRAME BREAKERS SHOWN)

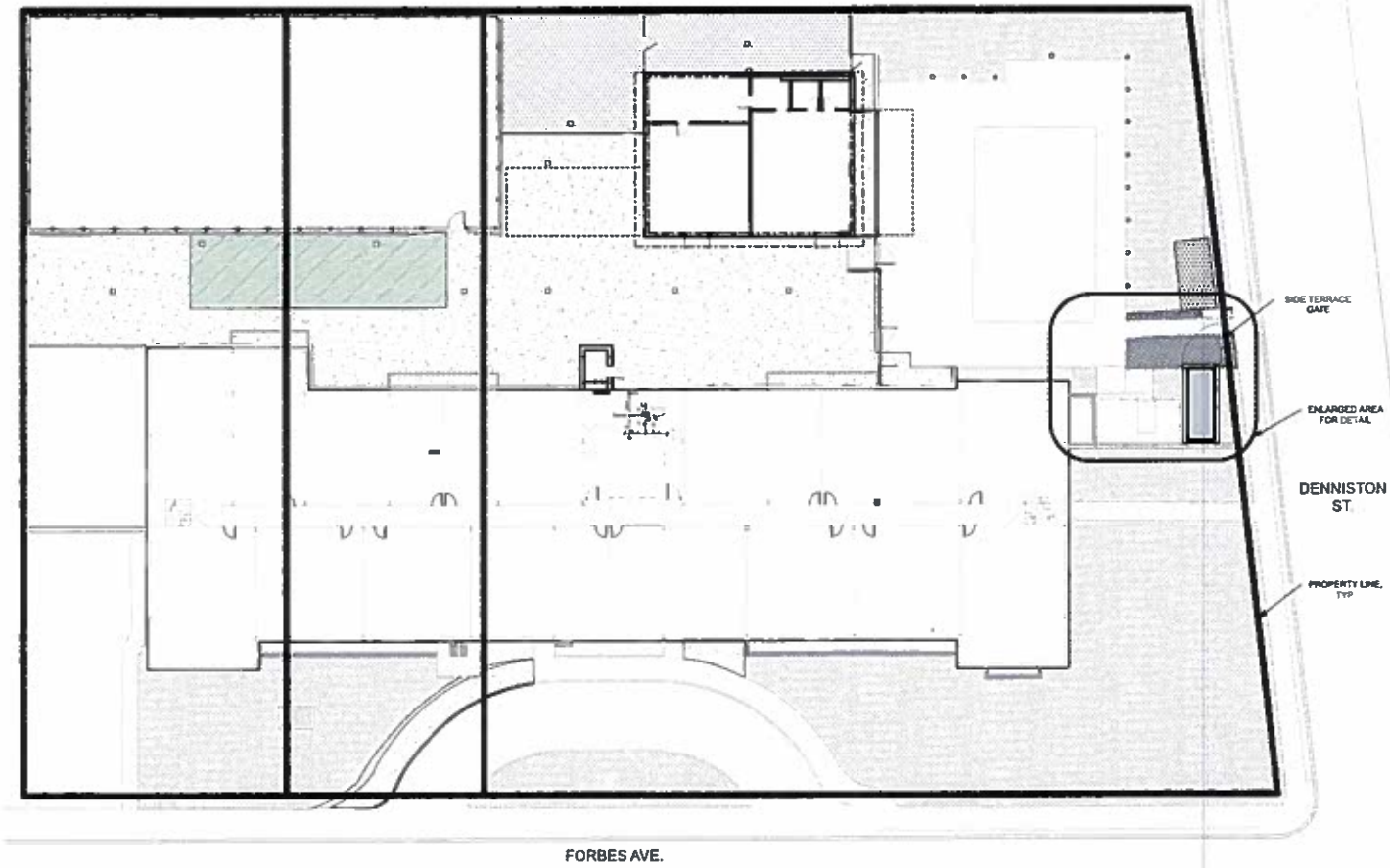
PTC® Creo® Parametric

UL, IEC LUGS					
LUG	FRAME	MAX AMPS	WIRE RANGE COPPER	DIM B	ACCESSORY DESCRIPTION
	NSJ/NLG	400A 3-POLE	#2-600 KCMIL (250 AMPS) #2-500 KCMIL (400 AMPS)	565 [22.2]	24 VDC SHUNT TRI 1 EA FORM C 1 AUX CONTACT + 1 TRIP ALARM
		600A 3-POLE	2/0-500 KCMIL		
	P	800A 3-POLE	3/0-500 KCMIL	18.9 [480]	24 VDC SHUNT TRI 1 EA FORM C 4 AUX CONTACTS + 1 TRIP ALARM
	P	1200A 3-POLE	3/0-500 KCMIL	17.2 [437]	24 VDC SHUNT TRI 1 EA FORM C 4 AUX CONTACTS 1 TRIP ALARM

TYPICAL CONDUIT AND WIRE SIZE BASED ON NEC 2008, ARTICLE 310.15 AT 75C TEMPURATURE RATED CONDUCTOR AT 40C AMBIENT AND ANNEX C (LIQUID TIGHT FLEXIBLE METAL CONDUIT - LFCMI) 4

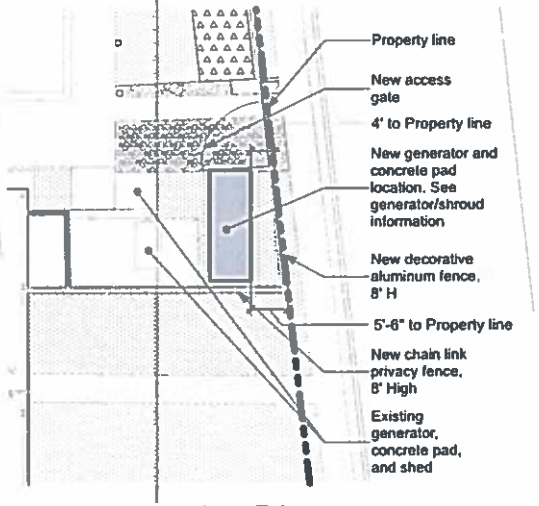
MAX BRKR AMPS	WIRE (COPPER)		CONDUIT	
	QTY	SIZE	QTY	SIZE
1200	4	500 KCMIL	4	4"
800	3	350 KCMIL	3	3 1/2"
600	2	350 KCMIL	2	3 1/2"
500	2	300 KCMIL	2	3 1/2"
450	2	300 KCMIL	2	3 1/2"
400	1	600 KCMIL	1	4"
350	1	600 KCMIL	1	4"
300	1	500 KCMIL	1	4"


PCC 2.X
CTB-4
1 PCCNET WAKE UP
2 B+ F02-2
3
4
5
6
7 B- SP16-2
8
9
10
11
12
13 SWB+ SP16-2
14
15 RUPTURE BASIN RTN
16 RUPTURE BASIN
17 LOW FUEL RTN
18 LOW FUEL SWITCH
19 COOLANT LEVEL RTN
20 LOW COOLANT LEVEL
21 CUSTOMER INPUT #4 RTN
22 CUSTOMER INPUT #3 RTN
23 LOAD DUMP DRIVER
24 CUSTOMER OUTPUT #3 DRIVER
25 CUSTOMER OUTPUT #4 DRIVER
26 CUSTOMER INPUT #4
27 CUSTOMER INPUT #3
28 REMOTE ESTOP A1
29 REMOTE ESTOP A2
30
CTB-2
PCCNET- A 1 A
PCCNET- B 2 B 111
PCCNET SHIELD/B+ RETURN 3 102
READY TO LOAD 4
B+ OUTPUT (5A) 5 101
6
7
CONFIGURABLE RELAY 1-A 8 114
CONFIGURABLE RELAY 1-B 9 102
CONFIGURABLE RELAY 2-A 10
CONFIGURABLE RELAY 2-B 11
REMOTE START RETURN 12 104
REMOTE START 13 103
CONFIGURABLE INPUT 1 14
CONFIGURABLE INPUT COMMON 15
CONFIGURABLE INPUT 2 16
REMOTE E-STOP INPUT 17 117
18
REMOTE E-STOP RETURN 19 118
FAULT RESET INPUT RTN 20
START TYPE INPUT RTN 21
DELAYED OFF DRIVER 22
SWITCHED B+ DRIVER 23
FAULT RESET INPUT 24
START TYPE INPUT 25
26
27
28
29
30
TB15
RS-485 SHLD 1
NA 2
RS 485- A 3
RS 485- B 4
PCCNET SYSTEM WAKE UP 5
REMOTE E-STOP
117
118
NOTE 2
UNIVERSAL
ANNUNCIATOR
300-5929-02
TB1
1 CUSTOMER FAULT 1
2 CUSTOMER FAULT 2
3 CUSTOMER FAULT 3
4 GENSET SUPPLYING LOAD
5 CHARGER A/C FAULT
6 LOW COOLANT LEVEL
7 LOW FUEL LEVEL
8 NORMAL UTILITY
9 GROUND
10 SILENCE/LAMP TEST N/O
11 SILENCE/LAMP TEST N/C
12 GROUND
13 REMOTE ALARM N/O
14 REMOTE ALARM N/C
15 GROUND
16 B+
17 B-
114
102
101
TB2
1 GROUND
2 NOT IN AUTO
3 GENSET RUNNING
4 HIGH BATT/ CUS 1
5 LOW BATT/ CUS 2
6 NORMAL BATT/ CUS 3/ WEAK BATT
7 FAIL TO START
8 LOW COOLANT TEMP
9 PRE-HIGH COOLANT TEMP
10 HIGH COOLANT TEMP
11 PRE-LOW OIL PRESSURE
12 LOW OIL PRESSURE
13 OVER SPEED
14 CUSTOMER RELAY 4
TB3
1 R1 CONTACT A
2 R1 CONTACT B
3 R2 CONTACT A
4 R2 CONTACT B
5 R3 CONTACT A
6 R3 CONTACT B
7 R4 CONTACT A
8 R4 CONTACT B
J2
B+ 1
B- 2
PCCNET DATA- A 3 A
PCCNET DATA- B 4 B
WU 5
111
TB1
1 N/C
2
3
4
5
6
7 N/C
8
9



Maxon Towers Site Plan

SCALE: 1" = 30'



Enlarged Site Plan

SCALE: 1" = 20'

Maxon Towers Apartments Owner: Pittsburgh/Forbes Denniston Land Company
06/18/2020
Site Plan

Strada
www.stradallc.com
Pittsburgh | Philadelphia