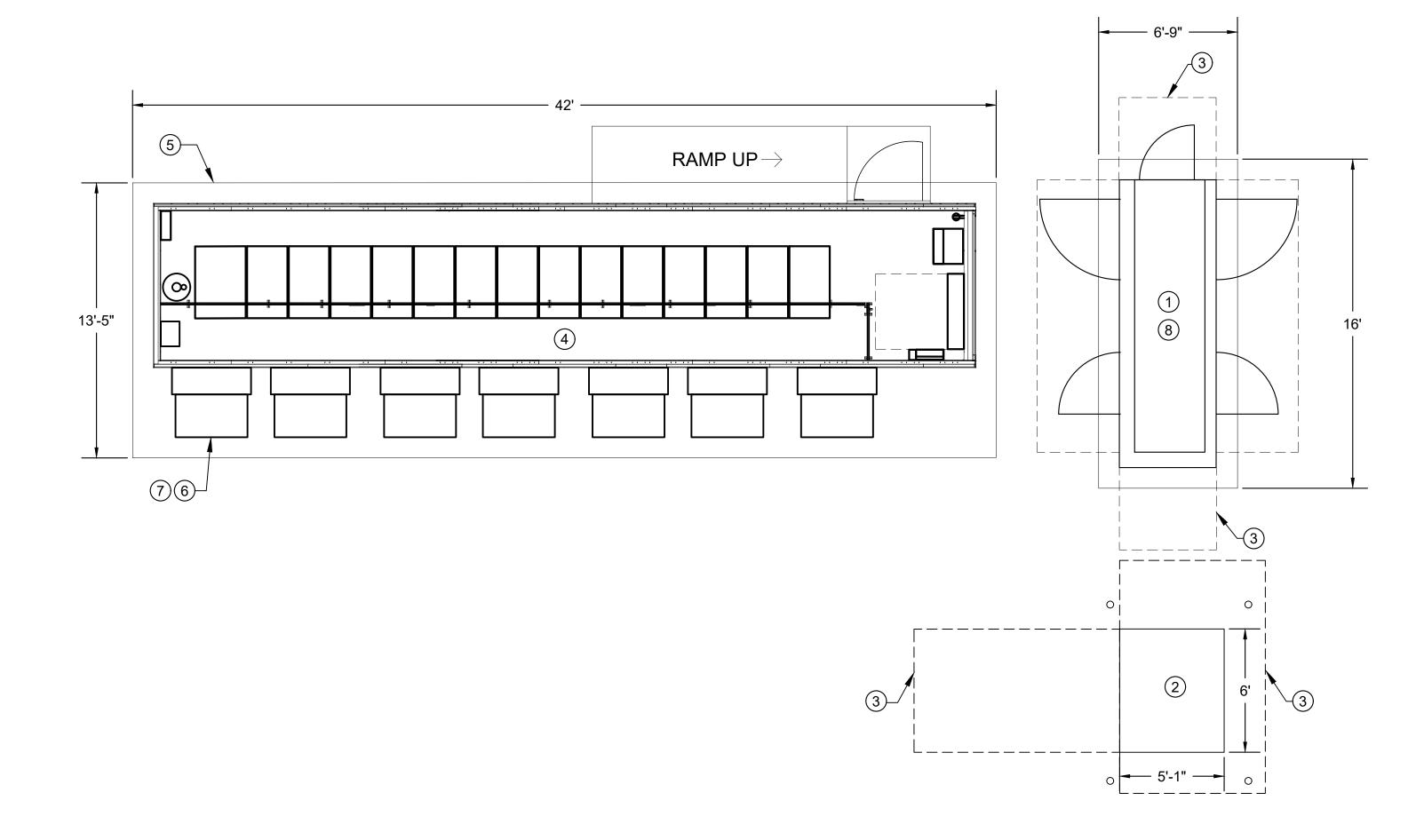
PREFAB CONFIGURATION-11

	PREFAB FRAME SIZE (KW)	MAX IT LOAD (KW)	PREFAB MODULE DIMENSIONS (APPROXIMATE)		MDP-100 SYSTEM	UPS SYSTEM	SERVICE ENTRANCE PANEL	SERVICE ENTRANCE		ALL MOUNT NO. OF WALL MOUNT COOLING		RACK DENSITY	NUMBER OF	IT RACK DIMENSIONS (APPROXIMATE)			IT RACK DISTRIBUTION		
			DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	VOLTAGE LEVEL (V)	MODEL	MODEL	PANEL(A)	WITH HEATER(MODEL)		NETWORKING IT RACK(MODEL)	GII	(KW/RACK)	SINGLE PHASE POLES IN MBP	DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	UNIT (MODEL)
	100	75	40	8	9.5	480	SYMMETRA PX100) I-LINE	800	WMF0661	7	AR3100/ AR3150	12	6.25	72	3.5	2	6.5	AP8865



GENERAL NOTES:

- REFER TO ONE LINE DIAGRAM ON SHEET E400 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.
- 2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.

PLAN NOTES:

- 1) 250KW/313KVA STAND BY GENERATOR.
- REFER TO DRAWING E102 FOR PREFAB MODULE DETAILS.

 7 INSTALL A READILY ACCESSIBLE, LOCAL DISCONNECT NEAR EACH WMF0661 COOLING UNIT(TYPICAL OF 7).
 - (5) CONCRETE PAD(TYPICAL).
- 8 GENERATOR SHALL INCLUDE A BUILT-IN CIRCUIT BREAKER. SEE ONE LINE DRAWING E400 FOR DETAILS.

CONSULTANTS:



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PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-11

REV.	DATE	DE	SCRIPTION
0	4/17/20	19	CONCEPTUAL DRAWINGS
1			
2			

CHECKED BY: PROJECT NUMBER:

DMP-XXXXXX DRAWING SCALE: NONE

SHEET TITLE: **ELECTRICAL** SITE LAYOUT PLAN **CONFIGURATION-11**

DRAWING NUMBER:

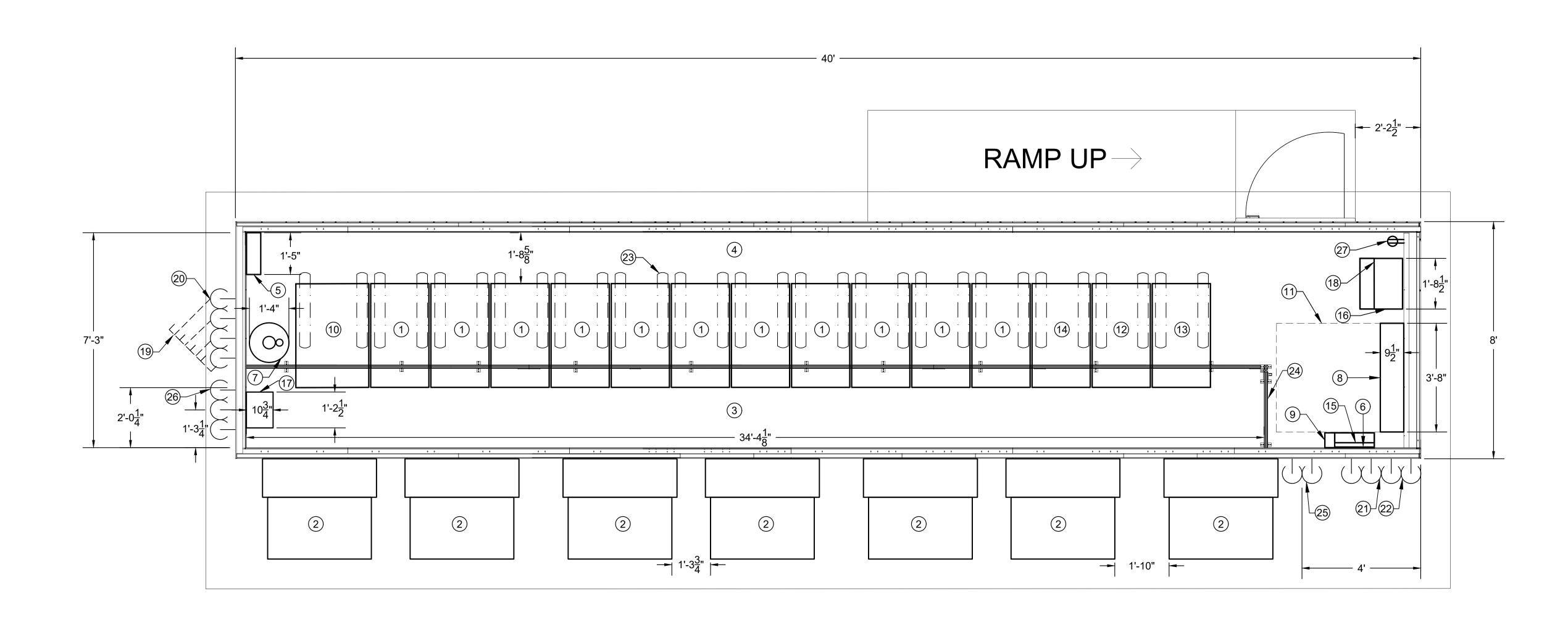
ELECTRICAL SITE LAYOUT PLAN **CONFIGURATION-11** SCALE: 1/4" = 1'-0"

2 UTILITY TRANSFORMER.

3 REQUIRED CLEARANCE (TYPICAL).

PREFAB CONFIGURATION-11

PREFAB FRAME SIZE (KW)	MAX IT LOAD (KW)	PREFAB MOD	PREFAB MODULE DIMENSIONS (APPROXIMATE)			UPS SYSTEM		SERVICE WALL MOUNT COOLING UNIT	NO. OF WALL IT RACK MOUNT COOLING (MODEL)/	NO OF IT BACKS	NO. OF IT RACKS RACK DENSITY			DIMENSIONS (APPR	IT RACK DISTRIBUTION			
		DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	VOLTAGE LEVEL (V)	MODEL	ODEL MODEL	PANEL(A)	WITH HEATER(MODEL)	UNITS WITH HEATER	WITH NETWORKING II	IVO. OF THEOLOGIC	(KW/RACK)	POLES IN MBP	DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	UNIT (MODEL)
100	75	40	8	9.5	480	SYMMETRA PX100	I-LINE	800	WMF0661	7	AR3100/ AR3150	12	6.25	72	3.5	2	6.5	AP8865



GENERAL NOTES:

- 1. REFER TO THE ONE LINE DIAGRAM ON SHEET E400 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.
- 2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.

ELECTRICAL PREFAB MODULE DETAILS

PLAN NOTES:

- 1 IT RACK.
- 2 WMF0661 WALL MOUNT COOLING UNIT WITH HEATER.
- (3) HOT AISLE.
- (4) COLD AISLE.
- (5) FIRE ALARM CONTROL PANEL.
- INSTALLATION SHALL MEET
- NFPA 72 REQUIREMENTS.
- (6) GENERATOR ANNUNCIATOR PANEL(OPTIONAL).
- (7) FIRE SUPPRESSION CYLINDER.

- 8 480V SERVICE ENTRANCE MAIN DISTRIBUTION PANEL(MDP-100).
- 9 SOURCE TRANSFER CONTROL PANEL(CP-100).
- (10) NETWORKING IT RACK.
- 11) REQUIRED CLEARANCE(TYPICAL).
- (12) SYMMETRA PX100 UPS MODULE.
- 13 PX100 UPS BATTERY CABINET.
- 14) PX100 POWER DISTRIBUTION UNIT
- 15 ACCESS CONTROL PANEL(OPTIONAL). (16) 480-208/120V STEP DOWN TRANSFORMER(TRF-2).
- (17) HUMIDIFIER(OPTIONAL).

PANEL(PDB-200).

- (18) 208/120V DISTRIBUTION
- (19) PROVIDE FOUR(4) 3" CONDUITS FOR DATA/FIBER OPTICS. CONDUITS SHALL BE CONNECTED PERPENDICULARLY TO MODULE WALL AT 100-1/2" ABOVE FINISHED SLAB AT LOCATION SHOWN. TURN VERTICALLY WITH A 36" RADIUS DOWN TO SLAB FOR UNDERGROUND RUN. PROVIDE UNDERGROUND PORTION TO JUST OUTSIDE OF SLAB EDGE AS SHOWN. PROVIDE STRUCTURAL SUPPORT FOR
- ABOVEGROUND PORTION. CO-ORDINATE HEIGHT OF CONDUITS ABOVE FINISHED SLAB AS REQUIRED,
- 20 RUN UNDERGROUND PORTION DIAGONALLY AT 45 DEGREES TO THE LEFT, AS SHOWN, TO EXTEND 48" BEYOND THE EDGE OF THE PAD TO BE CONTINUED BY OTHERS. CAP CONDUIT ENDS AT THIS POINT.
- PROVIDE TWO(2) 2-1/2" CONCRETE ENCASED UNDERGROUND $\overset{\smile}{}$ PVC SCH-80 CONDUITS FOR POWER FROM UTILITY. CO-ORDINATE HEIGHT OF CONDUITS ABOVE FINISHED SLAB AS REQUIRED.
- PROVIDE TWO(2) 2-1/2" AND TWO(2) 3/4" CONCRETE ENCASED UNDERGROUND PVC SCH-80 CONDUITS FOR POWER AND CONTROLS FROM GENERATOR. CO-ORDINATE HEIGHT OF CONDUITS ABOVE FINISHED SLAB AS REQUIRED.
- (23) E-CHAINS(TYP.) FOR PROVIDING RACK MOVEMENT FOR PROVIDING WORKING DEPTH ADJUSTMENT ON FRONT AND REAR SIDE OF THE RACK AS REQUIRED.
- (24) SLIDING DOOR

- (25) CONDUITS FOR POWER CONNECTIONS ⁷ TO WALL MOUNT COOLING UNITS. CONDUITS SHALL BE CONNECTED PERPENDICULARLY TO MODULE WALL AT 100-1/2" ABOVE FINISHED SLAB AT LOCATION SHOWN.CO-ORDINATE HEIGHT OF CONDUITS ABOVE FINISHED SLAB AS REQUIRED.
- (26) PIPES FOR HUMIDIFICATION AND DEHUMIDIFICATION. PIPES SHALL BE CONNECTED PERPENDICULARLY TO MODULE WALL AT 7-1/2"ABOVE FINISHED SLAB AT LOCATION SHOWN.
- 27 120V GENERAL PURPOSE RECEPTACLE (TYPICAL).

CONSULTANTS:



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PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB **CONFIGURATION-11**

KEYPLAN:

REV. DATE DESCRIPTION 0 4/17/2019 CONCEPTUAL DRAWINGS CHECKED BY:

PROJECT NUMBER: DMP-XXXXXX

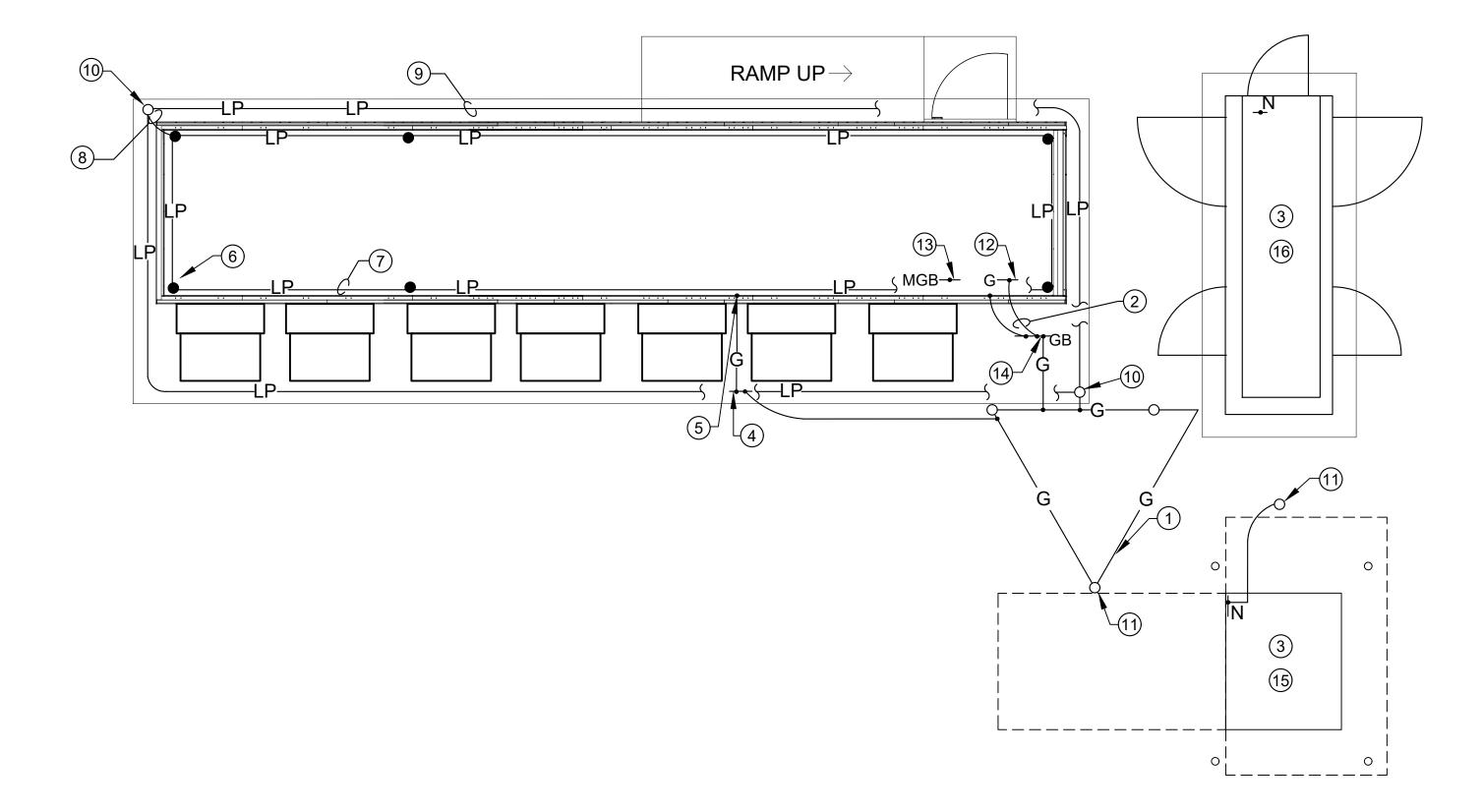
DRAWING SCALE: NONE

SHEET TITLE: **ELECTRICAL** PREFAB MODULE DETAILS **CONFIGURATION-11**

04/12/19

DRAWING NUMBER:

CONFIGURATION-11 SCALE: 1/2" = 1'-0"



GROUNDING AND LIGHTNING PROTECTION PLAN

CONFIGURATION-11 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

- 1. REFER TO ELECTRICAL GROUNDING DIAGRAM ON SHEET E401 FOR ADDITIONAL INFORMATION.
- 2. SEE DRAWING E500 FOR DETAILS ON MAIN GROUNDING SYSTEM AND GROUND BUS.
- 3. ALL GROUNDING CONNECTIONS AND BONDINGS SHALL BE BY ARTICLE 250 OF NFPA 70.
- 4. ALL GROUND WIRES SHALL BE #1/0 AWG BARE COPPER, STRANDED.
- 5. ALL LIGHTNING PROTECTION WIRES SHALL BE #2 AWG BARE COPPER, STRANDED.
- 6. ALL LIGHTNING PROTECTION COMPONENTS SHALL BE PROPERLY SUPPORTED TO THE STRUCTURE PER NFPA 780.
- 7. ALL LIGHTNING PROTECTION CONNECTIONS AND BONDINGS SHALL BE PER NFPA 780.

PLAN NOTES:

- MAIN GROUNDING ELECTRODE SYSTEM. SEE GROUNDING DETAIL ON SHEET E500.
- (2) MAIN GROUNDING ELECTRODE CONDUCTOR.
- GENERATOR NEUTRAL AND UTILITY TRANSFORMER NEUTRAL SHALL BE INTERCONNECTED AT THE NEUTRAL BUS OF SERVICE ENTRANCE ATS (SOLID NEUTRAL SYSTEM). MAIN BONDING JUMPER SHALL CONNECT NEUTRAL BUS TO THE GROUND BUS. SEE ELECTRICAL GROUNDING ONE LINE DIAGRAM ON SHEET E401 FOR DETAILS.
- CONNECT STRUCTURAL STEEL TO MAIN GROUNDING ELECTRODE SYSTEM (TYPICAL). CONTRACTOR SHALL ENSURE THAT ALL STRUCTURAL STEEL COMPONENT WITHIN THE SLAB ARE PROPERLY BONDED WITH EACH OTHER.
- CONNECT EQUIPMENT ENCLOSURE TO STRUCTURAL STEEL (TYPICAL).
- LIGHTNING PROTECTION AIR TERMINAL (TYPICAL OF 6).
- (7) LIGHTNING PROTECTION ROOF WIRE.
- LIGHTNING PROTECTION DOWN WIRE (TYPICAL OF 2.)
- 9 LIGHTNING PROTECTION RING WIRE. INSTALL ENCASED IN CONCRETE SLAB, BUT IN DIRECT CONTACT WITH EARTH.
- LIGHTNING PROTECTION GROUNDING ELECTRODE(TYPICAL OF 2). PROVIDE MIN. 8FT X 1/2IN DIAM. COPPER ROD. DRIVE TO A MINIMUM OF 10FT INTO THE EARTH.
- GROUNDING ELECTRODE(TYP.). PROVIDE MINIMUM 8FT X 3/4IN DIAM. COPPER ROD. DRIVE TO A MINIMUM OF 10FT INTO THE EARTH.
- GROUND BAR AT THE SERVICE ENTRANCE PANEL. REFER TO ELECTRICAL GROUNDING ONE LINE DIAGRAM ON SHEET E401 FOR DETAILS.
- MAIN GROUNDING BAR.REFER TO ELECTRICAL GROUNDING DIAGRAM ON SHEET E401 FOR DETAILS.
- GROUND BAR LOCATED OUTSIDE AND MOUNTED ON THE MODULE ENCLOSURE.
- (15) UTILITY TRANSFORMER.
- (16) 250KW/313KVA STANDBY GENERATOR.

LEGEND:

—— G ——	GROUND WIRE.
——LP——	LIGHTNING PROTECTION WIF
GB	GROUND BAR.

MGB MAIN GROUNDING BUS. CONSULTANTS:



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SEAL:



PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB **CONFIGURATION-11**

KEYPLAN:

REV.	DATE I	DESCRIPTION
0	4/17/2019	CONCEPTUAL DRAWINGS
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SHEET TITLE: **GROUNDING AND** LIGHTNING PROTECTION **PLAN, CONFIGURATION-11**

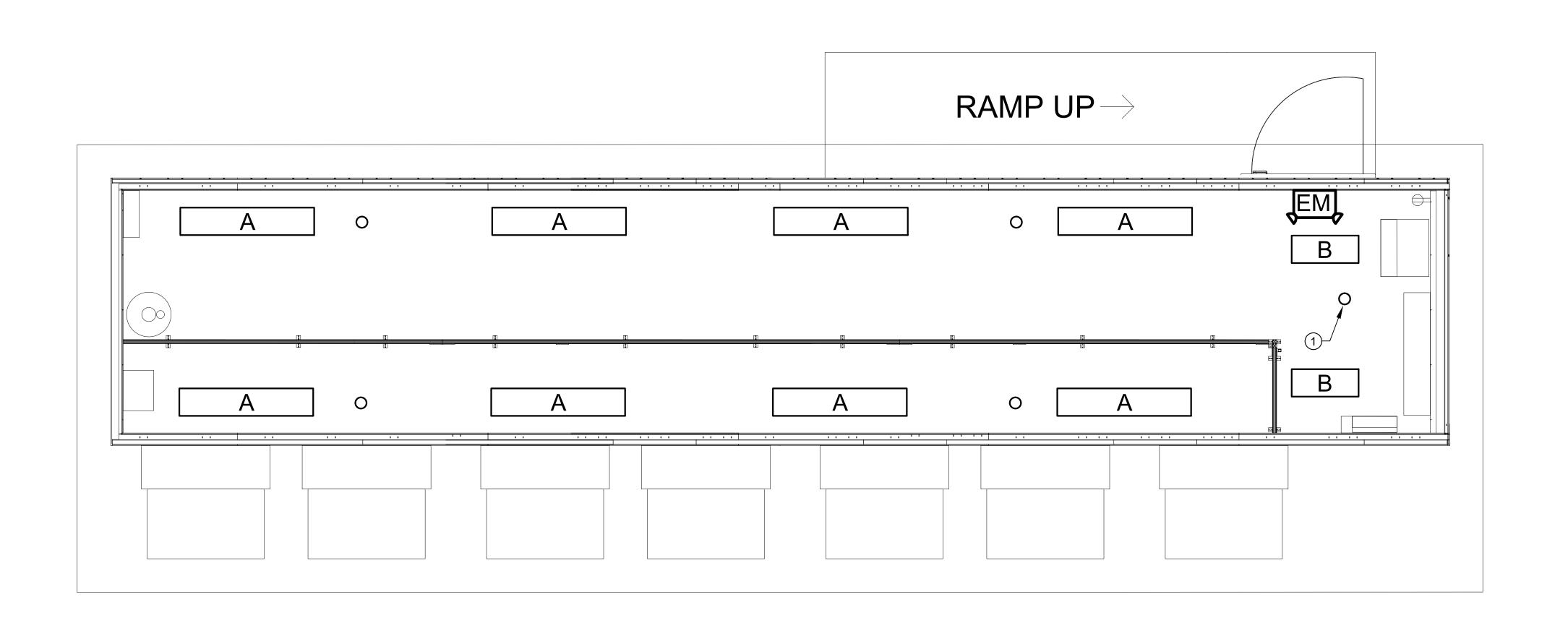
04/12/19

DMP-XXXXXX

DRAWING NUMBER: E103

PROJECT NUMBER:

DRAWING SCALE: NONE



	LIGHTING FIXTURE SCHEDULE												
	TYPE	MANUFACTURER PRODUCT #	VOLTAGE	WATTAGE	LAMP	NUMBER OF FIXTURES	MOUNTING	REMARKS					
۸	LED 4FT	LITHONIA LIGHTING	120V	38W	LED	8	SURFACE	4' LED VAPOR TIGHT FIXTURE					
А	VAPORTIGHT	4VT2-LD4-4-DR-UNVL840-CD1-WL-U	1200	3000	LED	0	SURFACE	DIMMABLE					
Р	LED 2FT	LITHONIA LIGHTING	120\/	20.4\A/	LED	2	CLIDEACE	2' LED VAPOR TIGHT FIXTURE					
В	VAPORTIGHT	2VT2-LD4-3-DR-UNVL840-CD1-WL-U	120V	28.4W	LED	2	SURFACE	DIMMABLE					
	LED COMBO	LITHONIA LIGHTING	120\/	4.2\\	LED	4	CLIDEACE	THERMOPLASTIC WHITE					
EM	EXIT/EMERGENCY LIGHTS	LHQM LED R HO M6	120V	4.3W	LED	1	SURFACE	(2) HEAD, BATTERY BACKED EMERGENCY LIGHT					

GENERAL NOTES:

REFER TO ONE LINE DIAGRAM ON SHEET E400 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.

2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.



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PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-11

KEYPLAN:

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PROJEC	T NUMBER:		
			DMP-XXXXXX
	G SCALE:	NON	NE
DRAWIN	O OOALL.		
SHEET T		CA	L
SHEET T	TITLE:		

ELECTRICAL LIGHTING PLAN
CONFIGURATION-11
SCALE: 1/2" = 1'-0"

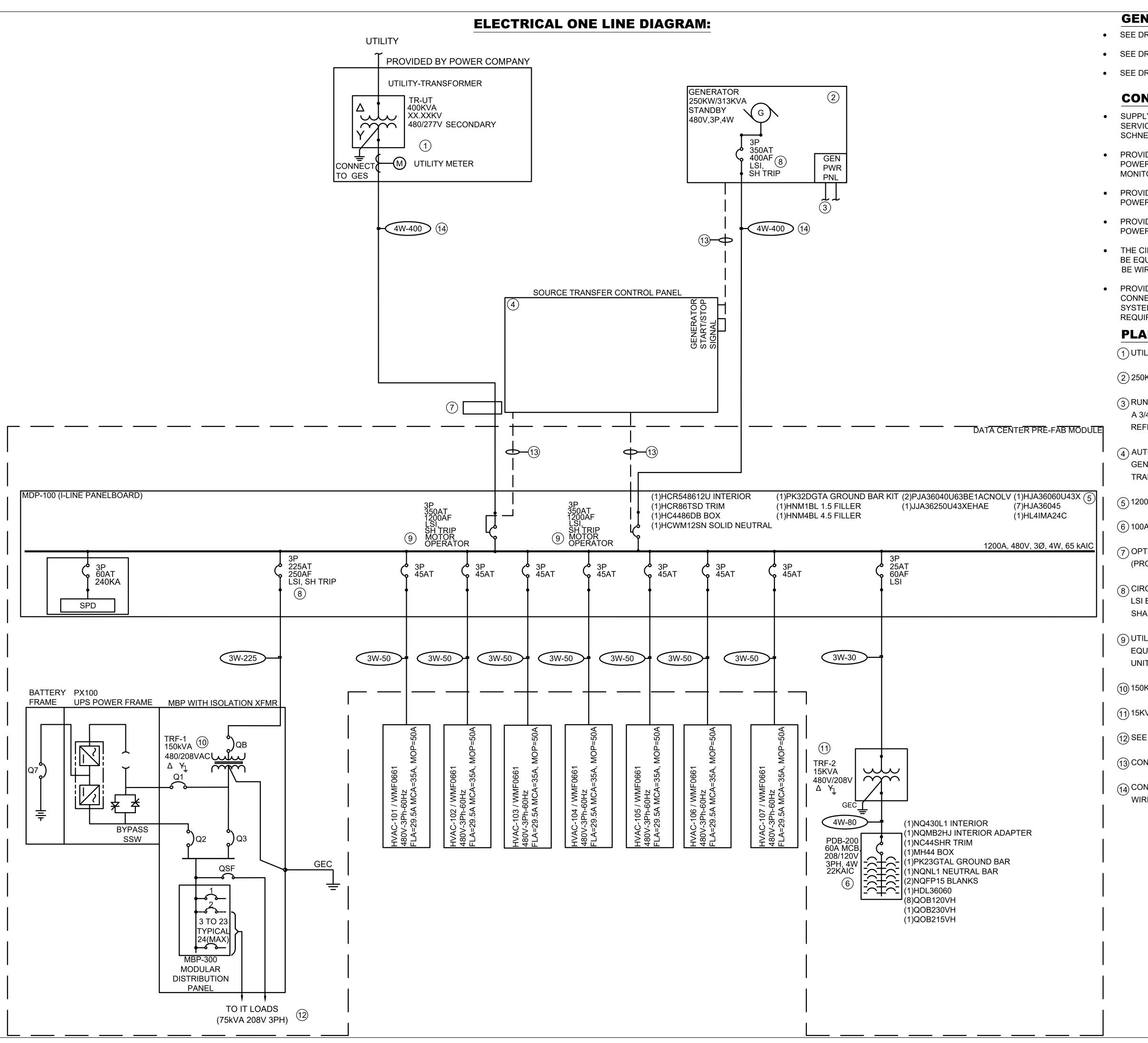
PLAN NOTES:

OCCUPANCY SENSOR(TYP.) MODEL DT-305 OR CX-100-3 OR SIMILAR.

DATE: 04/12

DRAWING NUMBER:

E104



GENERAL NOTES:

- SEE DRAWING E001 FOR ABBREVIATIONS AND SYMBOLS.
- SEE DRAWING E002 AND E003 FOR ELECTRICAL SPECIFICATIONS.
- SEE DRAWINGS E600 AND E601 FOR ELECTRICAL SCHEDULES.

CONTROLS NOTES:

- SUPPLY OF CONTROL PANELS ALONG WITH THEIR INTEGRATION SERVICES WITH THE DATA CENTER SYSTEM SHALL BE PROVIDED BY SCHNEIDER EPMS DIVISION.
- PROVIDE A SEPARATE CONDUIT FOR CONNECTING THE SPD WITH POWER QUALITY METER(IF PROVIDED) FOR SPD FAILURE MONITORING.
- PROVIDE A 1KVA 480V/120V CPT FOR PROVIDING 120V CONTROL POWER TO CONTROL EQUIPMENT ON 120V AC SUPPLY.
- PROVIDE A 120V AC TO 24V DC POWER SUPPLY FOR 24V DC CONTROL POWER REQUIREMENTS.
- THE CIRCUIT BREAKER INSIDE THE GENERATOR ENCLOSURE SHALL BE EQUIPPED WITH A 24V DC SHUNT TRIP UNIT. SHUNT TRIPS SHALL BE WIRED TO EPO PANEL.
- PROVIDE AN ETHERNET SWITCH WITH SUFFICIENT PORTS FOR CONNECTING THE POWER QUALITY METER(IF PROVIDED), UPS SYSTEM COMPONENTS AND ALL OTHER COMPONENTS THAT REQUIRE REMOTE MONITORING AND CONFIGURATION.

PLAN NOTES:

- 1) UTILITY METER (PROVIDED BY POWER COMPANY).
- (2) 250KW/313KVA STANDBY GENERATOR.
- 3 RUN TWO PHASE WIRES, A NEUTRAL WIRE AND A GROUND WIRE IN A 3/4" CONDUIT FROM PDB-200 PANEL TO GENERATOR POWER PANEL. REFER TO PANEL SCHEDULE ON DRAWING E-600 FOR DETAILS.
- 4 AUTOMATIC TRANSFER BETWEEN UTILITY BREAKER AND GENERATOR BREAKER IS ACHIEVED USING THE SOURCE TRANSFER CONTROL PANEL.
- (5) 1200AMP SERVICE ENTRANCE I-LINE PANELBOARD.
- (6) 100AMP NQ PANEL
- 7 OPTIONAL 400A SERVICE ENTRANCE RATED DISCONNECT SWITCH (PROVIDED BY OTHERS).
- 8 CIRCUIT BREAKER WILL BE EQUIPPED WITH A MICROLOGIC 5.2S/5.3S LSI ELECTRONIC TRIP UNIT AND A SHUNT TRIP UNIT. SHUNT TRIPS SHALL BE WIRED TO EPO PANEL.
- 9 UTILITY AND GENERATOR MAIN CIRCUIT BREAKERS SHALL BE EQUIPPED WITH MICROLOGIC 5.0 POWER TRIP UNIT AND A SHUNT TRIP UNIT. SHUNT TRIPS SHALL BE WIRED TO EPO PANEL.
- (10) 150KVA UPS INPUT TRANSFORMER.
- (11) 15KVA TRANSFORMER MODEL EX15T3H.
- (12) SEE PANEL MBP-300 SCHEDULE ON DRAWING E601 FOR DETAILS.
- (13) CONTROL WIRING.
- (14) CONDUCTORS FROM UTILITY AND GENERATOR SHOWN AS PER WIRE SCHEDULE SHALL BE RUN IN 2-1/2" PVC SCH-80 CONDUITS.

CONSULTANTS:



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SEAL:



PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-11

KEYPLAN:

REV.	DATE DE	ESCRIPTION
0	4/17/2019	CONCEPTUAL DRAWINGS
1		
2		

DRAWN BY: GR

CHECKED BY:

PROJECT NUMBER:

DRAWING SCALE: NONE

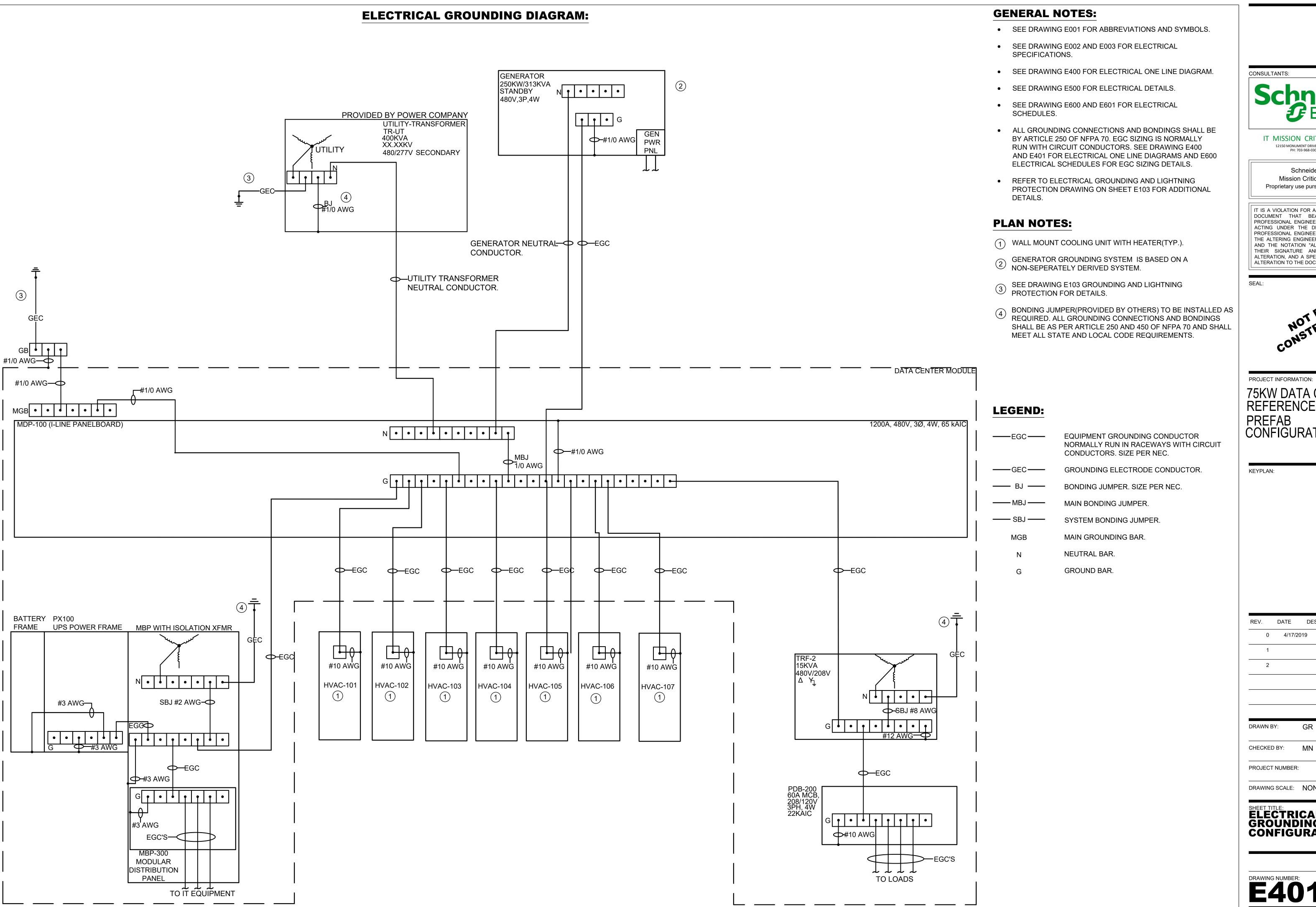
ELECTRICAL
ONE LINE DIAGRAM
CONFIGURATION-11

DATE: 04/12/19

DMP-XXXXXX

DRAWING NUMBER:

E400





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SEAL:



PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB **CONFIGURATION-11**

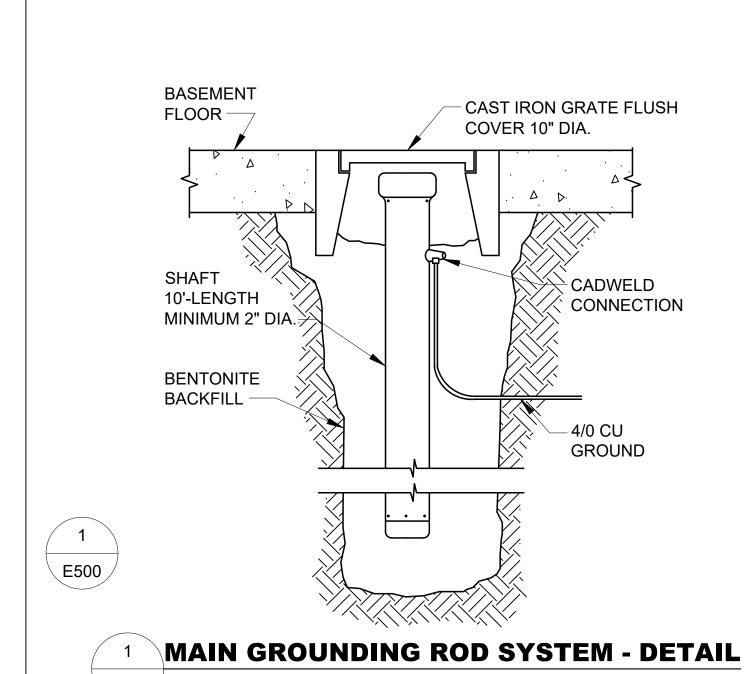
KEYPLAN:

REV. DATE DESCRIPTION 0 4/17/2019 CONCEPTUAL DRAWINGS GR DRAWN BY:

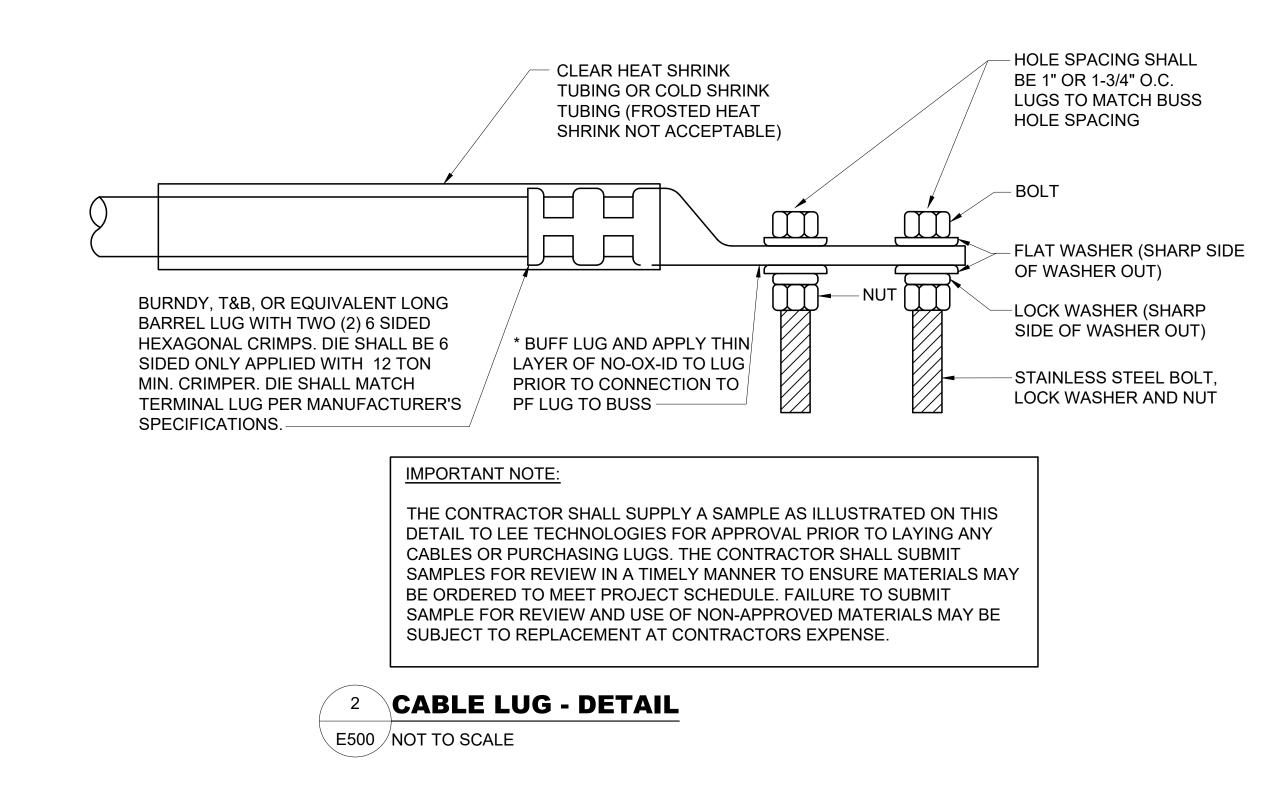
PROJECT NUMBER: DMP-XXXXXX

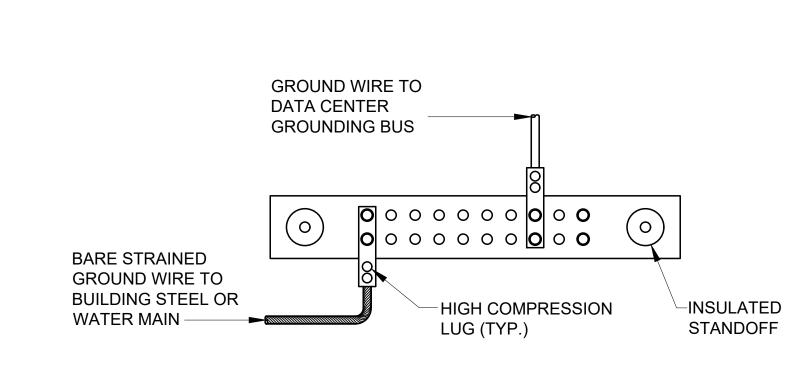
DRAWING SCALE: NONE

ELECTRICAL
GROUNDING DIAGRAM
CONFIGURATION-11



E500 NOT TO SCALE

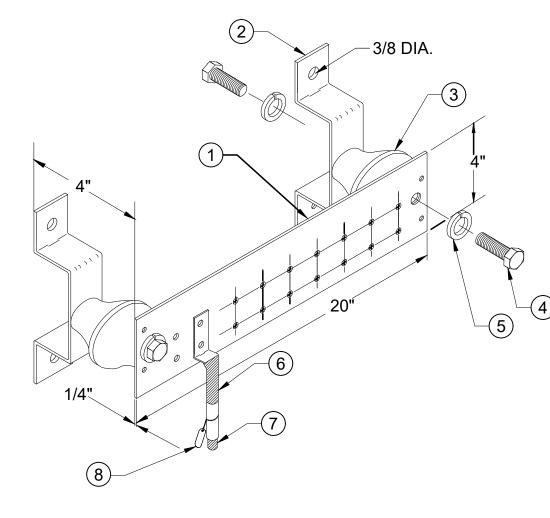




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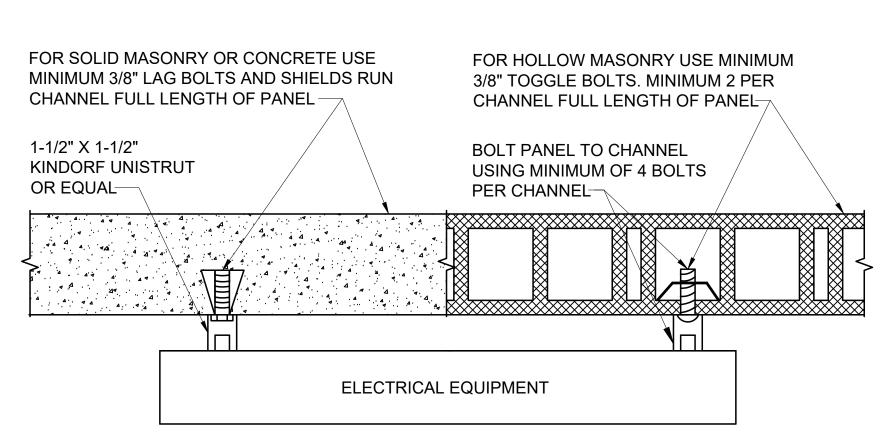
MAIN GROUNDING BUS - DETAIL

E500 NOT TO SCALE



	ITEM NO.	REQ.	DESCRIPTION
	1	1	GROUND BAR
	2	2	WALL MTG. BRKT.(OR FLOOR)
	3	2	INSULATORS
	4	4	5/8"-11 X 1 H.H.C.S.
)	(5)	4	5/8" LOCKWASHER
	6	1	SEE DETAIL #1 IN THIS SHEET
	7	1	GREEN INSULATED GROUND CONDUCTOR
	8	1	DESTINATION LABEL TAG DO NOT REMOVE

- BELOW RAISED FLOOR AGB +12" A.F.F.
- PROVIDE INSULATORS 24" ON CENTER ACROSS LENGTH OF GROUND BAR.
- ALL CONNECTIONS SHALL BE MADE WITH STAINLESS STEEL TAMPER PROOF HARDWARE OR EXOTHERMIC WELD.



NOTE:

ALL SAFETY SWITCHES, 60A AND LARGER; ALL STARTERS AND CONTROLLERS, 3 H.P. AND LARGER; ALL SURFACE MOUNTED PANELS AND ALL EQUIPMENT MOUNTED ON OUTSIDE WALLS, SHALL BE MOUNTED IN THIS MANNER.

5 SURFACE EQUIPMENT MOUNTING - DETAIL

E500 NOT TO SCALE



SHEET TITLE:
ELECTRICAL DETAILS
CONFIGURATION-11

DRAWING SCALE: NONE

DRAWN BY:

CHECKED BY:

PROJECT NUMBER:

CONSULTANTS:

SEAL:

PROJECT INFORMATION:

PREFAB

KEYPLAN:

75KW DATA CENTER REFERENCE DESIGN

CONFIGURATION-11

DATE DESCRIPTION

0 4/17/2019 CONCEPTUAL DRAWINGS

Schneider Electric

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DATE: 04/12

DMP-XXXXXX

DRAWING NUMBER:

ELECTRICAL DETAILS, CONFIGURATION-11

VOLTAGE	≣ PH	WIRE	MCB	(A)	MLC	(A)	AIC	MOU							CATALOG NUMBER :			
277 / 480	3	4			120		65,000	SUR	FACE	MODULE								
CKT		ITEM		CIRCUI	T BRKR	WIRE	COND.	LOAD		PHASE	LOA	COND	. WIRE	CIRCUI	T BRKR	ITEM	CK	
#		SERVED		TRIP	Р	SIZE	SIZE	(KVA)	Α	ВС	(KV) SIZE	SIZE	Р	TRIP	SERVED	#	
1 3 5		UPS		175	3	4/0	2"	76.00	25.33	25.33	0.00	3"		3	350	UTILITY INPUT(1200AF BREAKER)	4 6	
7 9 11		HVAC-101		45	3	8	3/4"	24.52	8.17	8.17	0.00	3"		3	350	GENERATOR(1200AF BREAKER)	8 10 12	
13 15 17		HVAC-102		45	3	8	3/4"	24.52	16.35	16.35	24.5 35	2 3/4"	8	3	45	HVAC-105	14 16 18	
19 21 23		HVAC-103		45	3	8	3/4"	24.52	16.35	16.35	24.5	2 3/4"	8	3	45	HVAC-106	20 22 24	
25 27 29		HVAC-104		45	3	8	3/4"	24.52	8.17	8.17	0.00	3/4"	8	3	45	HVAC-107(REDUNDANT)	26 28 30	
31 33 35		TRF-2		25	3	10	3/4"	11.06	3.69	3.69	9					SPACE	32 34 36	
37 39 41		SPACE							0.00	0.00	0					SPACE	38 40 42	
43 45 47	S	SPD BREAKER		60	3	6	3/4"	0.00	0.00	0.00						SPACE	46	
			1045	I				OLIDI O	78.06)6		LTOTAL	DEM	- DEM			
_OAD			LOAD	DNII	DNII	DNII			ADS (KV	,'		DNII	TOTAL	DEM		NOTES		
TYPE JPS			(KVA)	PNL	PNL	PNL	PNL	PNL	PNL	PNL PN	L PNI		(KVA) 76.00	FAC	LD 76.00			
JPS HVAC-101			76.00 24.52	-	-	-	-	-	-			-	24.52	1.00 1.00	76.00 24.52			
HVAC-101			24.52	_	_		_					-	24.52	1.00	24.52			
HVAC-102			24.52	_	_		_					-	24.52	1.00	24.52			
HVAC-104			24.52	_	_	_	_	_	_		_	_	24.52	1.00	24.52			
HVAC-105			24.52	_	_	_	_	_	_		_	_	24.52	1.00	24.52			
HVAC-106			24.52	_	_	_	_	_	_		_	_	24.52	1.00	24.52			
HVAC-107(ANT)	0.00	_	-	_	-	_	_		_	_	0.00	1.00	0.00			
TRF-2		,	11.06	_	-	-	-	_	_		_	_	11.06	1.00	11.06			
				•	ı		•		•	1		'	234.18		234.18	TOTAL KVA		
25 % OF La	argest Mo	otor Load	2.28	_	-	-	-	-	-		_	-	2.28	1.00	2.28			
25 % OF U	JPS Contir	nuous Load plus	31.20	-	-	-	-	-	-		-	-	31.20	1.00	31.20			
Battery Cha				-	-	-	-	-	-		-	-						
25 % OF TI NOTES:	RF-2's Co	ontinuous Loads	2.03	-	-	-	-	-	-	- -	_ -	-	2.03	1.00	269.69	SUM TOTAL KVA(125% CONTINUOUS LOAD+ 100% CONTINUOUS LOAD+100% MOTOR LOADS+ 25% LARG MOTOR LOAD)		

VOLTAGE	10 A B TIONAL) 10 14 16
CKT ITEM CKT. BRK WIRE COND. LOAD PHASE LOAD COND. WIRE CKT. BRK ITEM # SERVED TRIP P SIZE SIZE (KVA) A B C (KVA) SIZE SIZE P TRIP SERVED 1 ERV & DAMPER SYSTEM 20 1 12 3/4" 0.60 1.20 0.60 3/4" 12 1 20 FIRE SUPPRES 3 RECEPTACLES 20 1 12 3/4" 1.26 1.26 0.00 1 20 SPARE 5 GENERATOR POWER PANEL 30 2 10 3/4" 5.00 3.50 1.00 3/4" 12 1 20 CONTROLS PO 7 INTERIOR LIGHTING 20 1 12 3/4" 0.50 1.05 1.10 3/4" 12 2 15 HUMIDIFIER(OPT 11 SPACE 0.00 1 20	# # SION 2 4 4 5 5 6 6 6 7 10 12 14 16 16 16 16 16 16 16
# SERVED TRIP P SIZE SIZE (KVA) A B C (KVA) SIZE SIZE P TRIP SERVED 1 ERV & DAMPER SYSTEM 20 1 12 3/4" 0.60 1.20 0.60 3/4" 12 1 20 FIRE SUPPRES 3 RECEPTACLES 20 1 12 3/4" 1.26 1.26 0.00 1 20 SPARE 5 GENERATOR POWER PANEL 30 2 10 3/4" 5.00 3.50 1.00 3/4" 12 1 20 CONTROLS PO 7 INTERIOR LIGHTING 20 1 12 3/4" 0.50 1.05 1.10 3/4" 12 1 20 EXTERIOR LIGH 1 SPACE 5 SPACE 5 SPACE 5 SPACE 5 SPACE 5 SPACE 5 SPACE	# # SION 2 4 4 5 5 6 6 6 7 10 12 14 16 16 16 16 16 16 16
1	SION 2 WER 6 HTING 8 TIONAL) 10 14 16
3 RECEPTACLES 20 1 12 3/4" 1.26 1.26 0.00 1 20 SPARE	10 A B TIONAL) 10 14 16
Senerator Power Panel 30 2 10 3/4" 5.00 3.50 1.00 3/4" 12 1 20 Exterior Light	OWER 6 HTING 8 HONAL) 10 12 14
7 GENERATOR POWER PANEL 30 2 10 3/4" 5.00 3.50 1.00 3/4" 12 1 20 EXTERIOR LIGHT 9 INTERIOR LIGHTING 20 1 12 3/4" 0.50 1.05 1.10 3/4" 12 2 15 HUMIDIFIER (OPT 11 SPACE	HTING 8 TIONAL) 10 12 14 16
9 INTERIOR LIGHTING 20 1 12 3/4" 0.50 1.05 1.10 3/4" 12 1 20 EXTERIOR LIGHTING 11 SPACE 0.00 1 1 20 SPARE 15 SPACE 17 SPACE 19 SPACE SPACE SPACE	TIONAL) 10 12 14 16
11 SPACE 1.10 3/4" 12 2 15 HUMIDIFIER(OPT 13 15 15 15 15 15 15 15	12 14 16
11 SPACE 0.00 1 20 SPARE 15 SPACE SPACE 17 SPACE SPACE	14
13 0.00 1 20 SPARE 15 SPACE 17 SPACE SPACE 19 SPACE SPAC	16
17 SPACE SPACE SPACE SPACE SPACE	
17 SPACE 19 SPACE SPACE SPACE	1 40
	18
1 21	20
	22
23 SPACE SPACE	24
25 SPACE SPACE	26
27 SPACE SPACE	28
29 SPACE SPACE SPACE SPACE SUBLOADS (KVA) TOTAL DEM DEM NOTES	30
LOAD SUBLOADS (KVA) TOTAL DEM DEM NOTES TYPE (KVA) PNL PNL PNL PNL PNL PNL PNL PNL PNL (KVA) FAC LD	
ERV & DAMPER SYSTEM 0.60 0.60 1.00 0.60	
FIRE SUPPRESSION 0.60 0.60 1.00 0.60	
RECEPTACLES 1.26 1.26 1.00 1.26	
HUMIDIFIER(OPTIONAL) 1.10 - - - - - - - 1.10 1.00 1.10	
GENERATOR POWER PANEL 5.00 5.00 1.00 5.00	
CONTROLS POWER 1.00 1.00 1.00 1.00	
INTERIOR LIGHTING 0.50 0.50 1.00 0.50	
EXTERIOR LIGHTING 1.00 1.00 1.00 1.00	
SPARE 0.00 0.00 0.00	
SPARE 0.00 0.00 0.00	
11.06 TOTAL KVA	
25% Of Continuous Loads 2.03 2.30 1.00 2.30	250/
SUM TOTAL KVA(12 13.36 CONTINUOUS LOAI	
NOTES: 13.30 CONTINUOUS LOAD	
DEMAND FACTOR IN ACCORANCE WITH NEC. 37.08 TOTAL AMPS	<u> </u>

3-WIRE FEEDER SIZING SCHEDULE

SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDU
3W-15	1	3 #12	#12	3/4"
3W-20	1	3 #12	#12	3/4"
3W-25	1	3 #10	#12	3/4"
3W-30	1	3 #10	#10	3/4"
3W-35	1	3 #8	#10	3/4"
3W-40	1	3 #8	#10	3/4"
3W-45	1	3 #8	#10	3/4"
3W-50	1	3 #8	#10	3/4"
3W-60	1	3 #6	#10	3/4"
3W-70	1	3 #4	#8	1"
3W-80	1	3 #4	#8	1"
3W-90	1	3 #3	#8	1-1/4'
3W-100	1	3 #3	#8	1-1/4'
3W-110	1	3 #2	#6	1-1/4'
3W-125	1	3 #1	#6	1-1/4'
3W-150	1	3 1/0	#6	1-1/2'
3W-175	1	3 2/0	#6	2"
3W-200	1	3 3/0	#6	2"
3W-225	1	3 4/0	#4	2"
3W-250	1	3 250 MCM	#4	2-1/2
3W-300	1	3 350 MCM	#4	2-1/2
3W-350	1	3 500 MCM	#3	3"
3W-400	2	3 3/0	#3	2"
3W-450	2	3 4/0	#2	2"
3W-500	2	3 250 MCM	#2	2-1/2
3W-600	2	3 350 MCM	#1	2-1/2
3W-700	2	3 500 MCM	1/0	3"
3W-800	3	3 300 MCM	1/0	2-1/2
3W-1000	3	3 400 MCM	2/0	2-1/2
3W-1200	4	3 350 MCM	3/0	2-1/2
3W-1600	5	3 400 MCM	4/0	2-1/2
3W-2000	6	3 400 MCM	250 MCM	2-1/2
3W-2500	7	3 500 MCM	350 MCM	3"
3W-3000	8	3 500 MCM	400 MCM	3"
3W-4000	11	3 500 MCM	500 MCM	3"
3W-5000	11	3 700 MCM	700 MCM	3-1/2
3W-6000	13	3 750 MCM	800 MCM	3-1/2
		SYMBOL IS SHO L BE PROVIDED		

+ WHERE THE FEEDER SYMBOL IS SHOWN WITH A SUBSCIPTION, THE FEEDER SHALL BE PROVIDED WITH A SEPERATE ISOLATED GROUND CONDUCTOR SIZED TO MATCH THE EQUIPMENT GROUND.

-CONDUCTOR SIZING BASED ON NEC TABLE 310.15(B)(16) FOR COPPER CONDUCTORS RATED AT 75°C.

-EQUIPMENT GROUNDING CONDUCTOR SIZING BASED ON NEC TABLE 250.122 FOR COPPER CONDUCTORS.

-CONDUIT SIZING BASED ON NEC TABLE C.1 FOR TYPE THHN, THWN, THWN-2 CONDUCTORS IN ELECTRICAL METALLIC TUBING.

4-WIRE FEEDER SIZING SCHEDULE

SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDU
4W-15	1	4 #12	#12	3/4"
4W-20	1	4 #12	#12	3/4"
4W-25	1	4 #10	#12	3/4"
4W-30	1	4 #10	#10	3/4"
4W-35	1	4 #8	#10	3/4"
4W-40	1	4 #8	#10	3/4"
4W-45	1	4 #8	#10	3/4"
4W-50	1	4 #8	#10	3/4"
4W-60	1	4 #6	#10	1"
4W-70	1	4 #4	#8	1-1/4"
4W-80	1	4 #4	#8	1-1/4"
4W-90	1	4 #3	#8	1-1/4"
4W-100	1	4 #3	#8	1-1/4'
4W-110	1	4 #2	#6	1-1/4'
4W-125	1	4 #1	#6	1-1/2'
4W-150	1	4 1/0	#6	2"
4W-175	1	4 2/0	#6	2"
4W-200	1	4 3/0	#6	2"
4W-225	1	4 4/0	#4	2-1/2'
4W-250	1	4 250 MCM	#4	2-1/2'
4W-300	1	4 350 MCM	#4	3"
4W-350	1	4 500 MCM	#3	3"
4W-400	2	4 3/0	#3	2"
4W-450	2	4 4/0	#2	2-1/2'
4W-500	2	4 250 MCM	#2	2-1/2'
4W-600	2	4 350 MCM	#1	3"
4W-700	2	4 500 MCM	1/0	3"
4W-800	3	4 300 MCM	1/0	2-1/2'
4W-1000	3	4 400 MCM	2/0	3"
4W-1200	4	4 350 MCM	3/0	3"
4W-1600	5	4 400 MCM	4/0	3"
4W-2000	6	4 400 MCM	250 MCM	3"
4W-2500	7	4 500 MCM	350 MCM	3"
4W-3000	8	4 500 MCM	400 MCM	3"
4W-4000	11	4 500 MCM	500 MCM	3"
4W-5000	11	4 700 MCM	700 MCM	4"
(4W-6000)	13	4 750 MCM	800 MCM	4"

+ WHERE THE FEEDER SYMBOL IS SHOWN WITH A SUBSCII 'IG', THE FEEDER SHALL BE PROVIDED WITH A SEPERATE ISOLATED GROUND CONDUCTOR SIZED TO MATCH THE EQUIPMENT GROUND.

-CONDUCTOR SIZING BASED ON NEC TABLE 310.15(B)(16)
FOR COPPER CONDUCTORS RATED AT 75°C.

-EQUIPMENT GROUNDING CONDUCTOR SIZING BASED ON NEC TABLE 250.122 FOR COPPER CONDUCTORS.

-CONDUIT SIZING BASED ON NEC TABLE C.1 FOR TYPE THHN, THWN, THWN-2 CONDUCTORS IN ELECTRICAL METALLIC TUBING.

CONSULTANTS:



IT MISSION CRITICAL SERVICES, INC.

12150 MONUMENT DRIVE SUITE 150 FAIRFAX, VA. 22033
PH: 703-968-0300 FX: 703-654-3680

Schneider Electric IT
Mission Critical Services, Inc.
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SEAL:



PROJECT INFORMATION:

75KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-11

KEYPLAN:

REV.	DATE DE	ESCRIPTION
0	4/17/2019	CONCEPTUAL DRAWINGS
1		
2		

CHECKED BY: MN

PROJECT NUMBER:

DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:

ELECTRICAL SCHEDULES CONFIGURATION-11

DATE: 04/12/19



Γ								
SYSTEM LOAD CALCULATION								
ITEM	LOAD	UNIT						
CRITICAL LOAD	76.000	KVA						
HVAC 101	24.520	KVA						
HVAC 102	24.520	KVA						
HVAC 103	24.520	KVA						
HVAC 104	24.520	KVA						
HVAC 105	24.520	KVA						
HVAC 106	24.520	KVA						
HVAC 107(REDUNDANT)	0.000	KVA						
ERV & DAMPER SYSTEM	0.600	KVA						
FIRE SUPPRESSION	0.600	KVA						
RECEPTACLES	1.260	KVA						
HUMIDIFIER(OPTIONAL)	0.600	KVA						
GENERATOR POWER PANEL	5.400	KVA						
CONTROLS POWER	1.000	KVA						
INTERIOR LIGHTING	0.6	KVA						
LOBBY VENTILATION	0.12	KVA						
EXTERIOR LIGHTING	1	KVA						
TOTAL KVA	234.300	KVA						

VOLTAGE	PH	WIRE	MCB (A)	MLC) (A)	AIC	MOU	NTING	LOCATION				PANEL (CATALO	G NUMBER	
120/ 208	3	4	400			, , ,	65,000		FACE	MODULE					<u> </u>	<u> </u>	
CKT	-	ITEM		CKT.	BRK	WIRE	COND.	LOAD	T	PHASE	LOAD	COND.	WIRE	CKT	. BRK	ITEM	CK
#		SERVED		TRIP	Р	SIZE	SIZE	(KVA)	Α	ВС	(KVA)	SIZE	SIZE	Р	TRIP	SERVED	#
1 3 5		RACK#1		30	3	10		6.25	4.17	4.17	6.25		10	3	30	RACK#8	
7 9 11		RACK#2		30	3	10		6.25	4.17	4.17	6.25		10	3	30	RACK#9	
13 15 17		RACK#3		30	3	10		6.25	4.17	4.17	6.25		10	3	30	RACK#10	
19 21 23		RACK#4		30	3	10		6.25	4.17	4.17	6.25		10	3	30	RACK#11	
25 27 29		RACK#5		30	3	10		6.25	4.17	4.17	6.25		10	3	30	RACK#12	
31 33 35		RACK#6		30	3	10		6.25	2.08	2.08	-					SPACE	
37 39 41		RACK#7		30	3	10		6.25	2.08	2.08						SPACE	
43 45 47		SPACE							0.00	0.00	>					SPACE	
49 51 53		SPACE							0.00	0.00	>					SPACE	
55 57 59		SPACE							0.00	0.00	_					SPACE	
61 63 65		SPACE							0.00	0.00	-					SPACE	
67		CP-100		15	1	12		1.00	1.00								
69		SPARE		15	1			0.00		0.00]					SPACE	
71		SPARE		15	1			0.00		0.00							
									26.00	25.00 25.00							

PLAN NOTES:

1 POWER SHALL BE DISTRIBUTED TO IT RACKS AND CONTROL PANEL LOAD THROUGH CABLE TRAYS.

CONSULTANTS:



IT MISSION CRITICAL SERVICES, INC.

12150 MONUMENT DRIVE SUITE 150 FAIRFAX, VA. 22033
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REV.	DATE DE	ESCRIPTION
0	4/17/2019	CONCEPTUAL DRAWINGS
1		
2		

DRAWN BY: GR

CHECKED BY: MN

PROJECT NUMBER:

DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:

ELECTRICAL SCHEDULES CONFIGURATION-11

DATE:

DRAWING NUMBER: