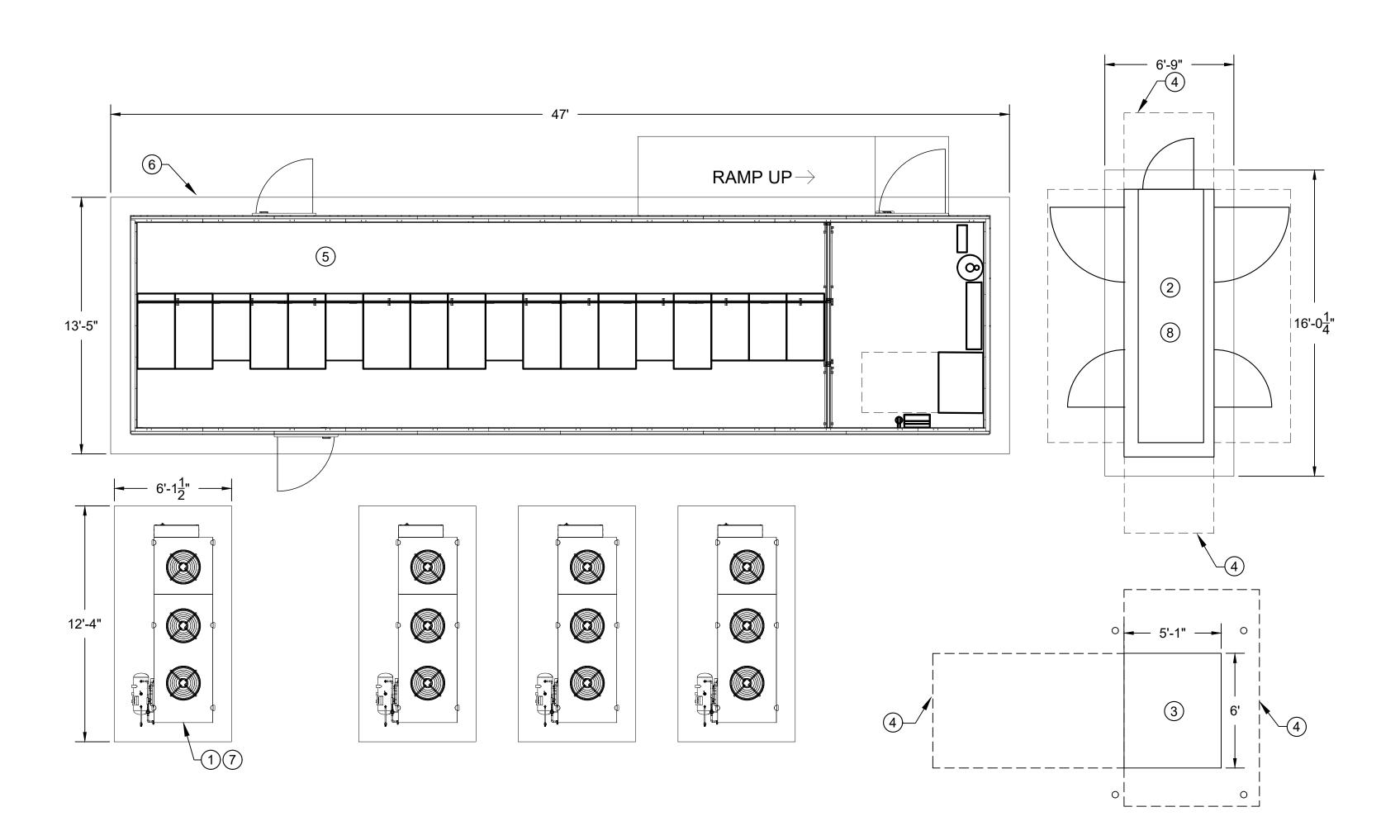
PREFAB FRAME	MAX IT LOAD (KW)	PREFAB MOD	ULE DIMENSIONS (AF	PPROXIMATE)	MDP-100 SYSTEM	UPS SYSTEM	ATS MODEL	ATS (A)	IN ROW COOLING UNIT MODEL/	NO. OF IN ROW	NO. OF	IT RACK (MODEL)/	NO. OF IT	RACK DENSITY	NUMBER OF SINGLE PHASE	IT RACK I	DIMENSIONS (APPR	OXIMATE)	IT RACK DISTRIBUTION
SIZE (KW)		DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	VOLTAGE LEVEL (V)	MODEL			CONDENSING UNIT MODEL	COOLING UNITS	CONDENSING UNITS	NETWORKING IT RACK(MODEL)	RACKS	(KW/RACK)	POLES IN MBP	DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	UNIT (MODEL)
100	90	45	11.5	11.5	208	SYMMETRA PX100	ASCO-300	800	ACRD600/600P ACCD75228/75234	4	4	AR3300/ AR3350	11	8.18	72	4	2	6.5	AP8865



CONFIGURATION-7 SCALE: 1/4" = 1'-0"

1

PREFAB CONFIGURATION-7

GENERAL NOTES:

- REFER TO ONE LINE DIAGRAMS ON SHEETS E400 AND E401 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.
- 2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.

PLAN NOTES:

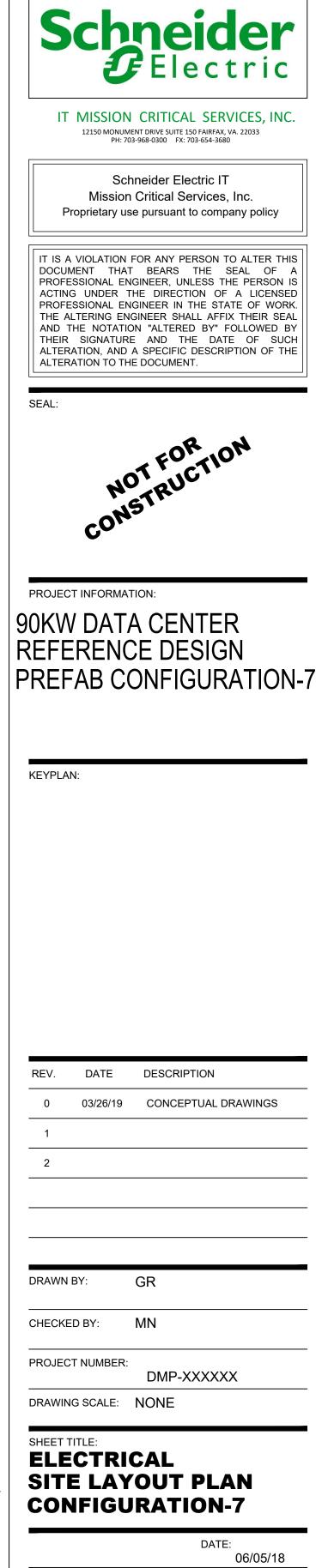
- (1) OUTDOOR CONDENSING UNIT ACCD75228. CONDENSING UNIT ACCD75234 IS AVAILABLE AS A SINGLE FAN OPTION (TYPICAL OF 4 UNITS).
- (2) 250KW/313KVA STAND BY GENERATOR.

(3) UTILITY TRANSFORMER.

(4) REQUIRED CLEARANCE (TYPICAL).

- 5 REFER TO DRAWING E102 FOR PREFAB MODULE DETAILS.
- 6 CONCRETE PAD(TYPICAL).

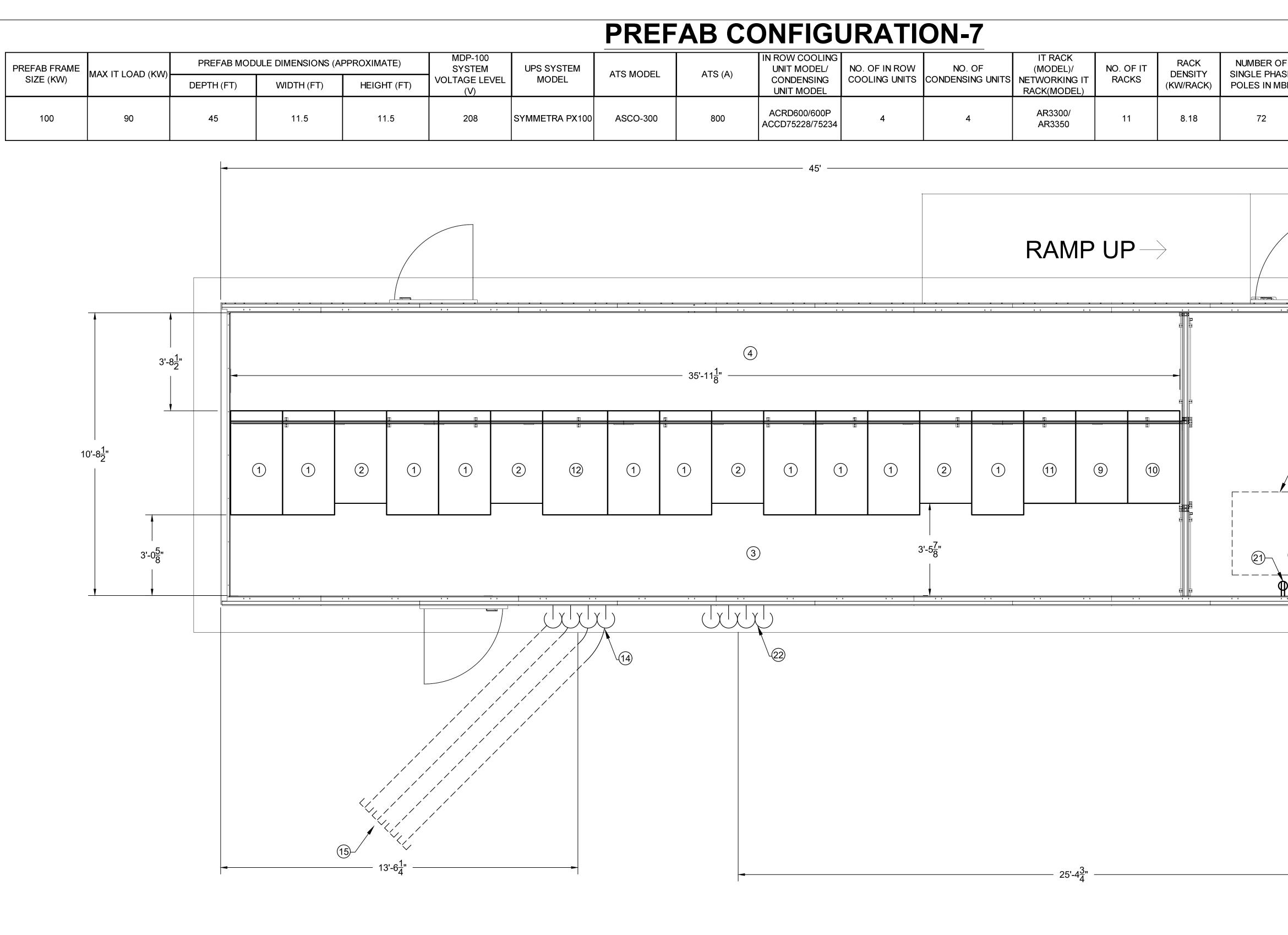
7 A BUILT-IN DISCONNECT SHALL BE INCLUDED WITH EACH CONDENSING UNIT(TYPICAL OF 4).



CONSULTANTS:

8 GENERATOR SHALL INCLUDE A BUILT-IN CIRCUIT BREAKER. SEE ONE LINE DRAWING E400 FOR DETAILS.

DRAWING NUMBER: E101



GENERAL NOTES:

- 1. REFER TO THE ONE LINE DIAGRAMS ON SHEETS E400 AND E401 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.
- 2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.

PLAN NOTES:

- 1 IT RACK.
- 2 DX600 IN-ROW COOLING UNIT.
- 3 HOT AISLE.
- (4) COLD AISLE.
- 5 FIRE ALARM CONTROL PANEL. THE FIRE ALARM SYSTEM INSTALLATION SHALL BE AS PER NFPA 72 REQUIREMENTS.
- **ELECTRICAL PREFAB MODULE DETAILS CONFIGURATION-7**

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

6 FIRE SUPPRESSION CANISTER.

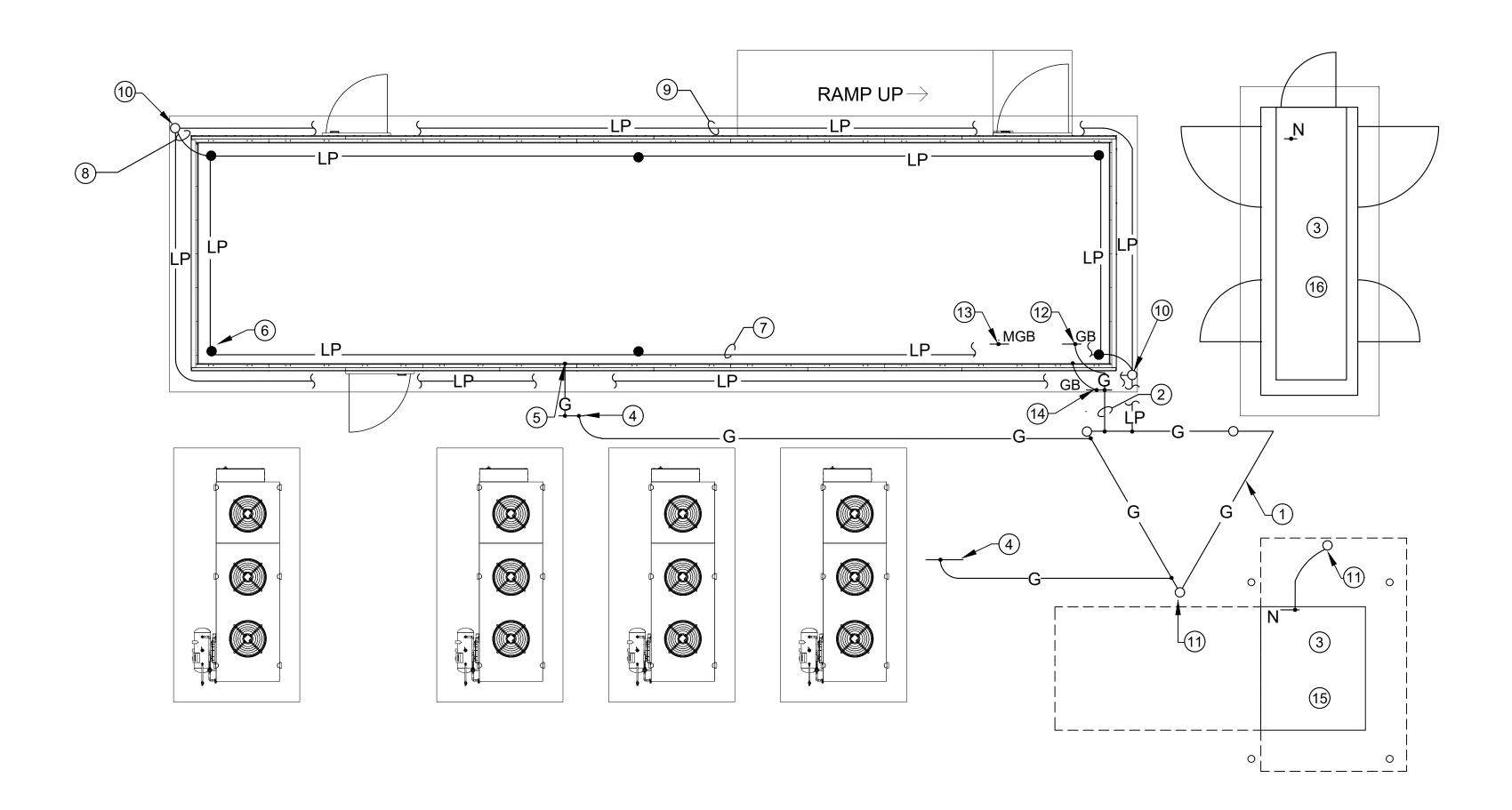
- 7 208V MAIN(I-LINE) DISTRIBUTION PANEL(MDP-100).
- 8 ASCO-300 MODEL(208V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION (ATS-MDP-100).
- 9 PX100 UPS MODULE.
- (1) PX100 UPS BATTERY CABINET.
- 1 PX100 UPS POWER DISTRIBUTION CABINET.
- (12) NETWORKING IT RACK.

(13) REQUIRED CLEARANCE(TYPICAL).

- (14) PROVIDE FOUR(4) 3" CONDUITS FOR DATA/FIBER OPTICS. CONDUITS SHALL BE CONNECTED PERPENDICULARLY TO MODULE WALL AT 114" 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 FLOOR AS REQUIRED.
- (15) RUN UNDERGROUND PORTION DIAGONALLY AT 45 ⁷ 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.
- (16) PROVIDE THREE(3) 3" CC UNDERGROUND PVC SCI POWER FROM UTILITY.
- (17) PROVIDE THREE(3) 3" AN CONCRETE ENCASED U SCH-80 CONDUITS FOR CONTROLS FROM GENE
- (18) GENERATOR ANNUNCIA PANEL (OPTIONAL).
- (19) CP-100 CONTROL PANEL
- 20 ACCESS CONTROL PANE

F SE	IT RACK I	DIMENSIONS (APPR	OXIMATE)	IT RACK DISTRIBUTION	
SE SP	DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	UNIT (MODEL)	
	4	2	6.5	AP8865	CONSULTANTS:
		<u> </u>		<u> </u>]	Schneider Electric
	- 2'-2	<u>1</u> ″ →			IT MISSION CRITICAL SERVICES, INC. 12150 MONUMENT DRIVE SUITE 150 FAIRFAX, VA. 22033 PH: 703-968-0300 FX: 703-654-3680
		4			Schneider Electric IT Mission Critical Services, Inc. Proprietary use pursuant to company policy
0					IT IS A VIOLATION FOR ANY PERSON TO ALTER THIS DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WORK. THE ALTERING ENGINEER SHALL AFFIX THEIR SEAL
	5	1'-5" + 0 1'-4"			AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION TO THE DOCUMENT.
					SEAL:
	13		-		constr
(8 2'-4"	3'-2	"		PROJECT INFORMATION: 90KW DATA CENTER
(19) 			-		REFERENCE DESIGN PREFAB CONFIGURATION-7
					KEYPLAN:
					REV. DATE DESCRIPTION
					0 03/26/19 CONCEPTUAL DRAWINGS
					DRAWN BY: GR
	RETE ENCASED O CONDUITS FOR	(22) CONDUIT:	EPTACLE(TYPICA S AND PIPES FOR TIONS FROM CONI	COOLING	CHECKED BY: MN PROJECT NUMBER: DMP-XXXXXX
NDE	WO(2) 3/4" RGROUND PVC /ER AND 'OR.	CONDUITS PERPEND ABOVE FI CO-ORDIN	S AND PIPES SHAL	L BE CONNECTED DULE WALL AT 114" OCATION SHOWN. ONDUITS ABOVE	SHEET TITLE: ELECTRICAL
TOF			OLAD AO NEUEOO	<i>-</i>	PREFAB MODULE DETAI CONFIGURATION-7
L.					DATE: 06/05/18 DRAWING NUMBER:
EL(C	PTIONAL).				E102





GROUNDING AND LIGHTNING PROTECTION PLAN, CONFIGURATION-7

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

GENERAL NOTES:

- 1. REFER TO ELECTRICAL GROUNDING DIAGRAM ON SHEET E410 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 #2/0 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:

- (1) MAIN GROUNDING ELECTRODE SYSTEM. SEE GROUNDING DETAIL ON SHEET E500.
- (2) MAIN GROUNDING ELECTRODE CONDUCTOR.
- → GENERATOR NEUTRAL AND UTILITY 3 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 E410 FOR DETAILS.
- (4) 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.
- 5 CONNECT EQUIPMENT ENCLOSURE TO STRUCTURAL STEEL (TYPICAL).
- (6) LIGHTNING PROTECTION AIR TERMINAL (TYPICAL OF 6).
- (7) LIGHTNING PROTECTION ROOF WIRE.
- 8 LIGHTNING PROTECTION DOWN WIRE (TYPICAL OF 2.)
- (9) LIGHTNING PROTECTION RING WIRE. INSTALL ENCASED IN CONCRETE SLAB, BUT IN DIRECT CONTACT WITH EARTH.
- 10 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.
- (1) GROUNDING ELECTRODE(TYP.). PROVIDE MINIMUM 8FT X 3/4IN DIAM. COPPER ROD. DRIVE TO A MINIMUM OF 10FT INTO THE EARTH.
- (12) GROUND BAR AT THE SERVICE ENTRANCE ATS. REFER TO ELECTRICAL GROUNDING ONE LINE DIAGRAM ON SHEET E410 FOR DETAILS.
- (13) MAIN GROUNDING BAR.REFER TO ELECTRICAL GROUNDING DIAGRAM ON SHEET E410 FOR DETAILS.
- (14) GROUND BAR LOCATED OUTSIDE AND MOUNTED ON MODULE EXTERIOR WALL.
- (15) UTILITY TRANSFORMER.
- (16) 250KW/313KVA STANDBY GENERATOR.

LEGEND:

— G ——	GROUND WIRE.
—LP ———	LIGHTNING PROTECTION WIRE.
GB	GROUND BAR.
MGB	MAIN GROUNDING BUS.

CONSULTANTS: Schneider Electric

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. Proprietary use pursuant to company policy

IT IS A VIOLATION FOR ANY PERSON TO ALTER THIS DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WORK. THE ALTERING ENGINEER SHALL AFFIX THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION TO THE DOCUMENT.

SEAL:



PROJECT INFORMATION:

90KW DATA CENTER **REFERENCE DESIGN** PREFAB CONFIGURATION-7

KEYPLAN:

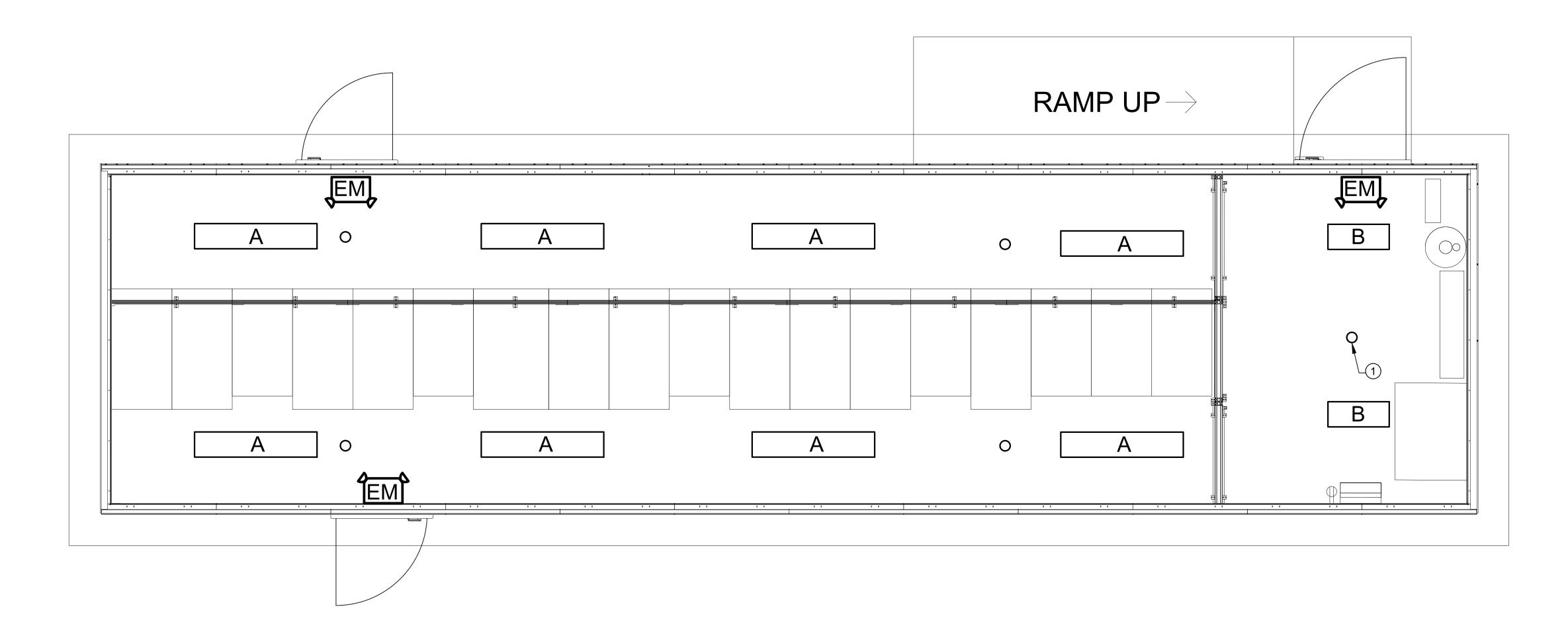
REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		
DRAWN	BY:	GR
CHECKE	ED BY:	MN
PROJEC	CT NUMBER:	DMP-XXXXXX
DRAWIN	IG SCALE:	NONE
SHEET		
		NG PROTECTION

PLAN, CONFIGURATION-7

DATE:

06/05/18





			LIGF	ITING FIXTUR	E SCHEDULE			
·T	YPE	MANUFACTURER	VOLTAGE	WATTAGE	LAMP	NUMBER OF	MOUNTING	
-		PRODUCT #				FIXTURES		REMARKS
Δ	LED 4FT	LITHONIA LIGHTING	120V	38W	LED	8	SURFACE	4' LED VAPOR TIGHT FIXTURE
A	VAPORTIGHT	4VT2-LD4-4-DR-UNVL840-CD1-WL-U	1200	3000		0	SUN ACE	DIMMABLE
В	LED 2FT	LITHONIA LIGHTING	120V	28.4W	LED	2	SURFACE	2' LED VAPOR TIGHT FIXTURE
В	VAPORTIGHT	2VT2-LD4-3-DR-UNVL840-CD1-WL-U	1200	20.477		Ζ	SURFACE	DIMMABLE
EM	LED COMBO EXIT/EMERGENCY	LITHONIA LIGHTING	120V	4.3W	LED	3	SURFACE	THERMOPLASTIC WHITE
	LIGHTS	LHQM LED R HO M6	1201	4.377		5	SUN ACE	(2) HEAD, BATTERY BACKED EMERGENCY LIGH

ELECTRICAL LIGHTING PLAN **CONFIGURATION-7** SCALE: 1/2" = 1'-0"

LICUTING EIVTUDE SOUEDUILE

GENERAL NOTES:

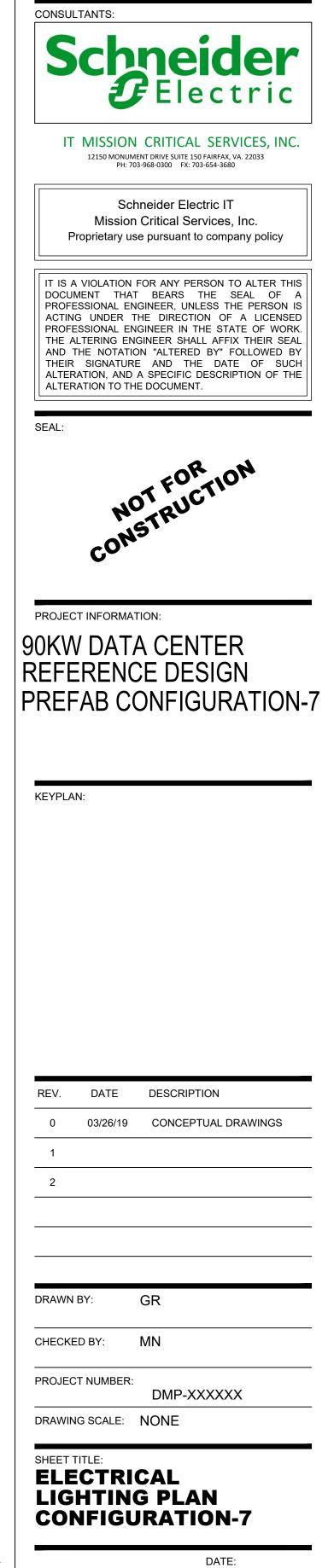
- 1. REFER TO ONE LINE DIAGRAMS ON SHEETS E400 AND E401 FOR ADDITIONAL DETAILS ON THE ELECTRICAL SYSTEM.
- 2. FOR ELECTRICAL SCHEDULES, SEE DRAWINGS ON SHEETS E600 AND E601.

+	ľ	T	•	

PLAN NOTES:

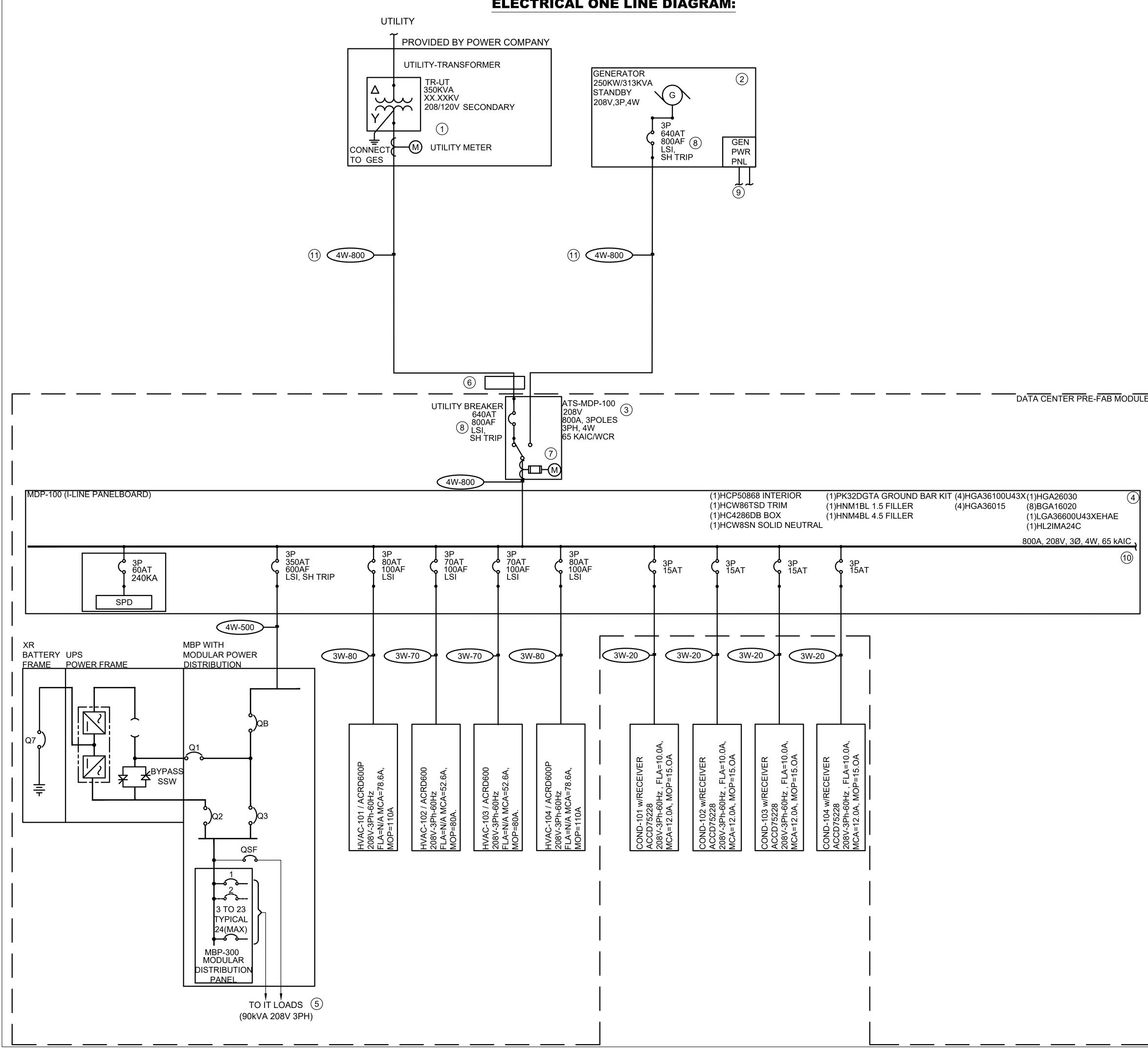
① OCCUPANCY SENSOR(TYP.) MODEL DT-305 OR CX-100-3 OR SIMILAR.





06/05/18

ELECTRICAL ONE LINE DIAGRAM:



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 208V/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 ARE TO 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 (TO BE PROVIDED BY POWER COMPANY).

- (2) 250KW/313KVA STANDBY GENERATOR.
- (3) ASCO-300 MODEL(208V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION
- (4) 800AMP I-LINE PANELBOARD.
- (5) SEE PANEL MBP-300 SCHEDULE ON DRAWING E-601 FOR DETAILS.
- (6) OPTIONAL 800A SERVICE ENTRANCE RATED DISCONNECT SWITCH (PROVIDED BY OTHERS).
- (7) ASCO 5210 POWER METER(OPTIONAL).
- (8) CIRCUIT BREAKER WILL BE EQUIPPED WITH A MICROLOGIC 5.0 POWER TRIP UNIT AND A SHUNT TRIP UNIT. SHUNT TRIPS ARE TO BE WIRED TO EPO PANEL.
- (9) RUN TWO PHASE WIRES, A NEUTRAL WIRE AND A GROUND WIRE IN A 3/4" CONDUIT FROM MDP-100 PANEL TO GENERATOR POWER PANEL. REFER TO PANEL SCHEDULE ON DRAWING E-600 FOR DETAILS.
- (10) CONTINUED IN DWG E401.
- (11) CONDUCTORS FROM UTILITY AND GENERATOR SHOWN AS PER WIRE SCHEDULE SHALL BE RUN IN 3" PVC SCH-80 CONDUITS.



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. Proprietary use pursuant to company policy

IT IS A VIOLATION FOR ANY PERSON TO ALTER THIS DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER. UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WORK. THE ALTERING ENGINEER SHALL AFFIX THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION TO THE DOCUMENT.

SEAL:

NOT FOR CONSTRUCTION

PROJECT INFORMATION:

90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		
DRAWN	BY:	GR
CHECKE	ED BY:	MN
PROJEC	T NUMBER:	DMP-XXXXXX
DRAWIN	IG SCALE:	NONE
SHEET		CAL
		E DIAGRAM
		JRATION-7
		DATE: 06/05/18

DRAWING NUMBER:

E400

MDP-100 (I-LINE PANELBOARD) **6** 1P **9** 20AT 2P 30AT 20AT ν<mark>ο</mark> 1Ρ γο 20ΑΤ -1 SET OF (2 #12 AWG -1 SET OF (2 #8 AWG+ 1 #8 AWG NEUTRAL P−1 SET OF (2 #12 AWG + 1 #12G IN + 1 #12G IN + 1 #10G IN 3/4"C) 3/4"C) 3/4"C)

PANEL

GENERATOR POWER P 208V-1Ph-60Hz FLA=25A.

10

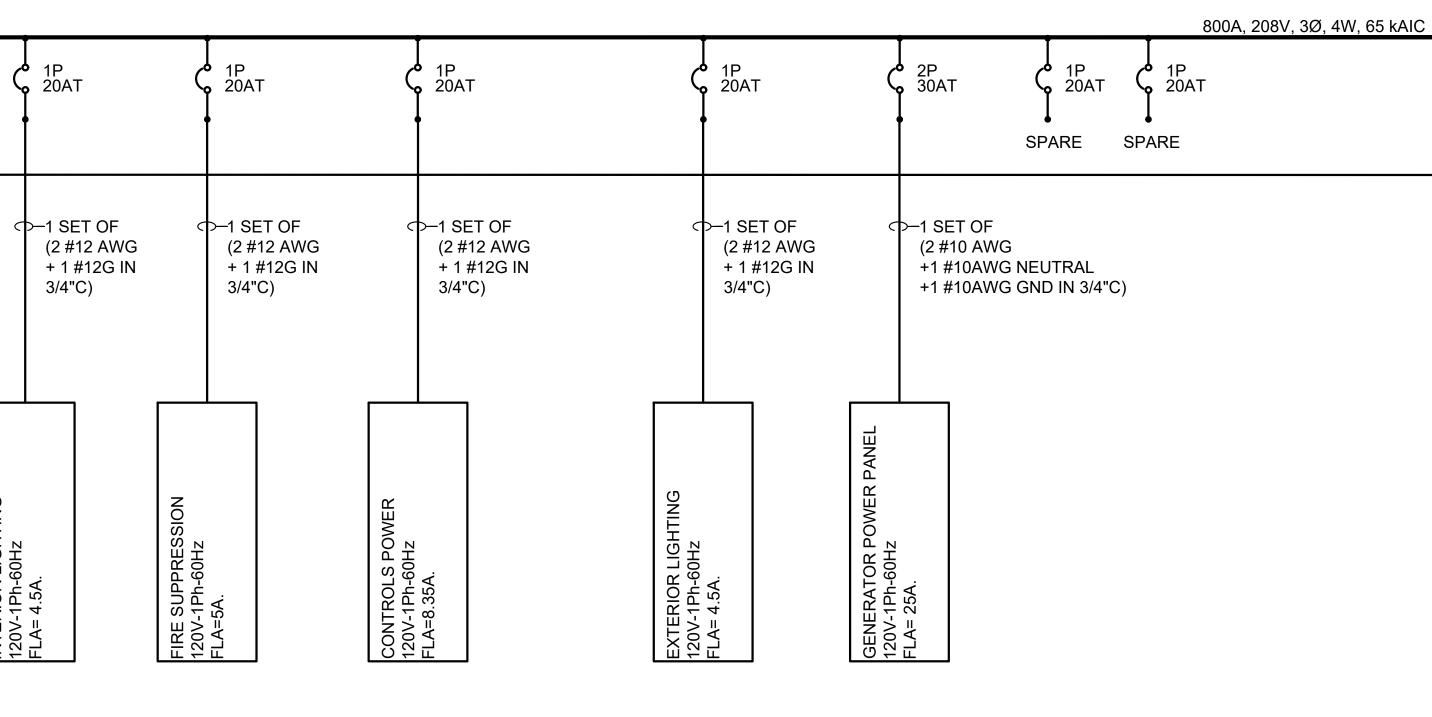
ERV AND DAMPER SYSTEM 120V-1Ph-60Hz FLA=5A

S

RECEPTACLE LOA 120V-1Ph-60Hz FLA=10.5A

INTERIOR LIGHTING 120V-1Ph-60Hz FLA= 4.5A.

ELECTRICAL ONE LINE DIAGRAM:



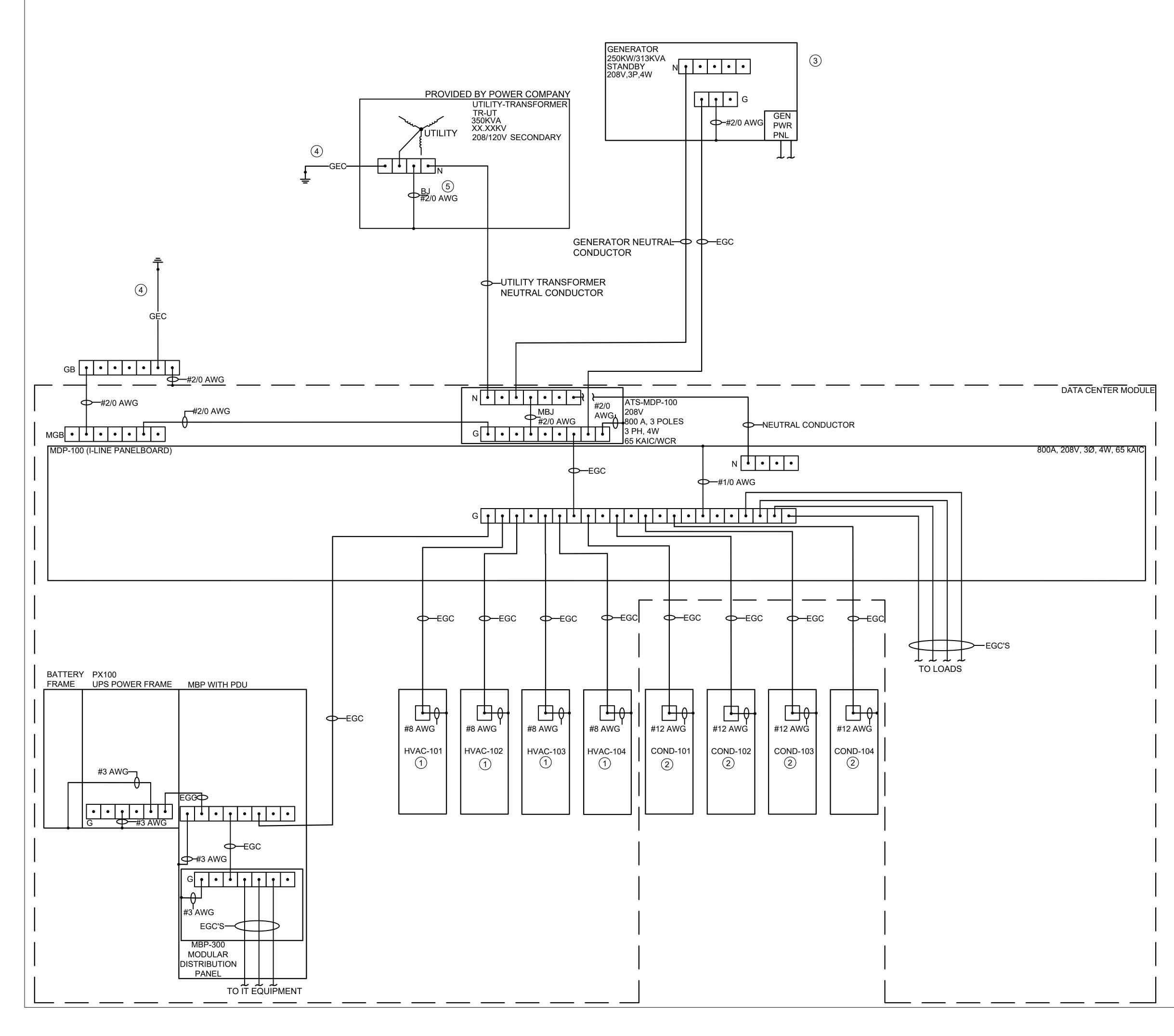
DATA CENTER PRE-FAB MODULE

PLAN NOTES:

(10) CONTINUED FROM DWG E400.

Г	CONSULTANTS:
	Schneider Electric
L	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. Proprietary use pursuant to company policy
	IT IS A VIOLATION FOR ANY PERSON TO ALTER THIS DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WORK. THE ALTERING ENGINEER SHALL AFFIX THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION TO THE DOCUMENT.
	SEAL: NOT FORTION CONSTRUCTION
9(R	PROJECT INFORMATION: OKW DATA CENTER EFERENCE DESIGN REFAB CONFIGURATION
ł	
	KEYPLAN:
	NE Ι Ρ΄LΑΝ.
	NE Ι Ρ΄LΑΙΝ.
	NE ΤΡΊΔΑΙΝ.
	NE ΤΡΊΔΑΙΝ.
	NE ΤΡΊΔΑΙΝ.
-	REV. DATE DESCRIPTION
	REV. DATE DESCRIPTION
•	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS
•	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1
	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1
-	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1
- - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1 2
- - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1 2 DRAWN BY: GR
- - - - - - - - - - - - - - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1 2 2 DRAWN BY: GR CHECKED BY: MN PROJECT NUMBER: DMP-XXXXXX
- - - - - - - - - - - - - - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1 2 DRAWN BY: GR CHECKED BY: MN PROJECT NUMBER: DMP-XXXXXX DRAWING SCALE: NONE
- - - - - - - - - - - - - - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1
- - - - - - - - - - - - - - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1 2 2
- - - - - - - - - - - - - - - - - - -	REV. DATE DESCRIPTION 0 03/26/19 CONCEPTUAL DRAWINGS 1

ELECTRICAL GROUNDING DIAGRAM:



GENERAL NOTES:

- SEE DRAWING E001 FOR ABBREVIATIONS AND SYMBOLS.
- SEE DRAWING E002 AND E003 FOR ELECTRICAL SPECIFICATIONS.
- SEE DRAWINGS E400 AND E401 FOR ELECTRICAL ONE LINE DIAGRAMS.
- SEE DRAWING E500 FOR ELECTRICAL DETAILS.
- SEE DRAWING E600 AND E601 FOR ELECTRICAL SCHEDULES.
- ALL GROUNDING CONNECTIONS AND BONDINGS SHALL BE BY ARTICLE 250 OF NFPA 70. EQUIPMENT GROUNDING CONDUCTORS ARE NORMALLY RUN WITH CIRCUIT CONDUCTORS. SEE DRAWING E400 AND E401 FOR ONE LINE DIAGRAMS AND E600 ELECTRICAL SCHEDULES FOR EGC SIZING DETAILS.
- REFER TO ELECTRICAL GROUNDING AND LIGHTNING PROTECTION DRAWING ON SHEET E103 FOR ADDITIONAL DETAILS.

PLAN NOTES:

1 INROW COOLING UNIT(TYP.).

- 2 CONDENSING UNIT(TYP.).
- 3 GENERATOR GROUNDING SYSTEM IS BASED ON A NON-SEPERATELY DERIVED SYSTEM.
- (4) SEE DRAWING E103 GROUNDING AND LIGHTNING PROTECTION FOR DETAILS.
- 5 BONDING JUMPER(PROVIDED BY OTHERS) TO BE INSTALLED AS REQUIRED. ALL GROUNDING CONNECTIONS AND BONDINGS SHALL BE AS PER ARTICLE 250 AND 450 OF NFPA 70 AND SHALL MEET ALL STATE AND LOCAL CODE REQUIREMENTS.



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. Proprietary use pursuant to company policy

IT IS A VIOLATION FOR ANY PERSON TO ALTER THIS DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WORK. THE ALTERING ENGINEER SHALL AFFIX THEIR SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION TO THE DOCUMENT.

SEAL:

NOT FOR CONSTRUCTION

PROJECT INFORMATION:

90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		
DRAWN	BY:	GR
CHECK	ED BY:	ET
PROJEC	CT NUMBER:	DMP-XXXXXX
DRAWIN	IG SCALE:	NONE
	CTRI	CAL ING DIAGRAM JRATION-7

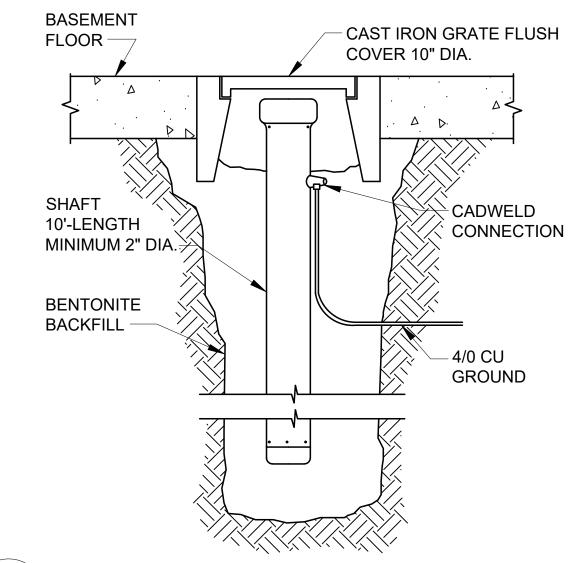
DATE:

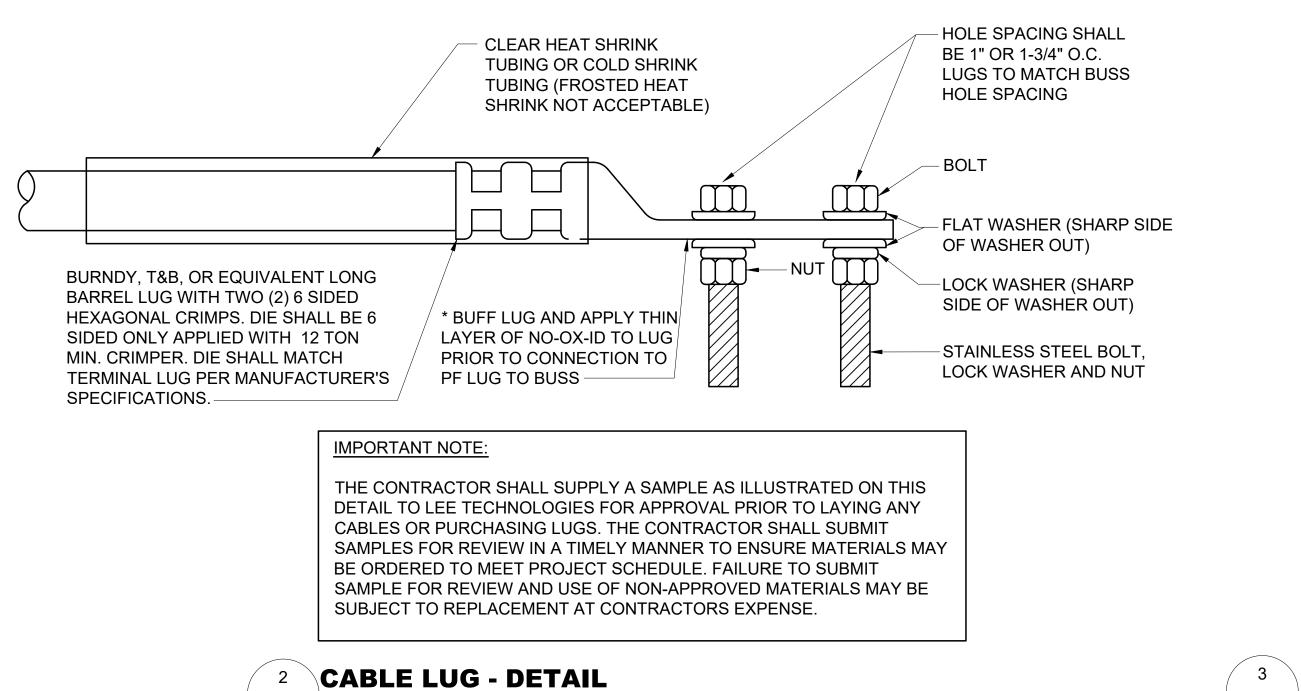
06/05/18

DRAWING NUMBER:

LEGEND:

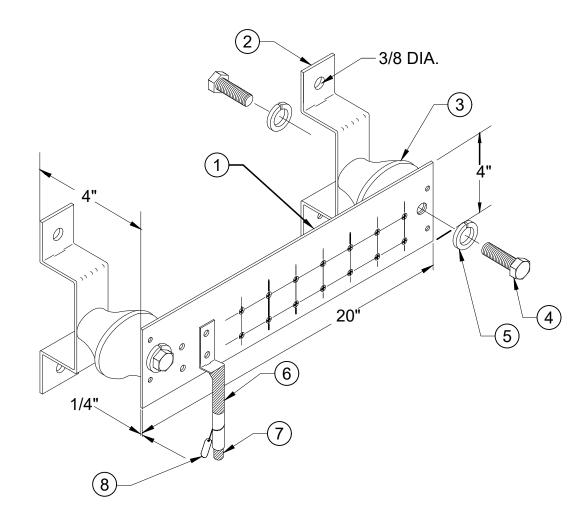
EGC	EQUIPMENT GROUNDING CONDUCTOR NORMALLY RUN IN RACEWAYS WITH CIRCUIT CONDUCTORS. SIZE PER NEC.
——GEC——	GROUNDING ELECTRODE CONDUCTOR.
— BJ —	BONDING JUMPER. SIZE PER NEC.
—— MBJ ——	MAIN BONDING JUMPER.
—— SBJ ——	SYSTEM BONDING JUMPER.
MGB	MAIN GROUNDING BAR.
Ν	NEUTRAL BAR.
G	GROUND BAR.





MAIN GROUNDING ROD SYSTEM - DETAIL

E500 NOT TO SCALE



ITEM NO.	REQ.	DESCRIPTION
	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

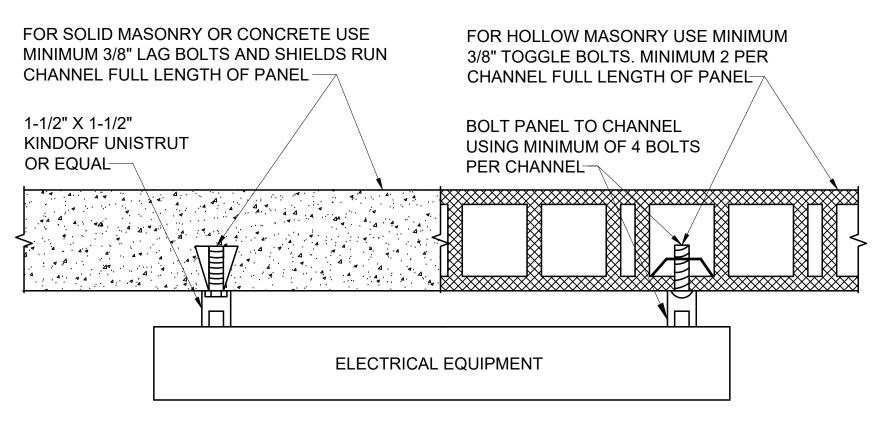
OF GROUND BAR. • ALL CONNECTIONS SHALL BE MADE WITH STAINLESS

STEEL TAMPER PROOF HARDWARE OR EXOTHERMIC WELD.

INSULATED GROUND BAR - DETAIL

E500 NOT TO SCALE

E500 NOT TO SCALE



WATER MAIN —

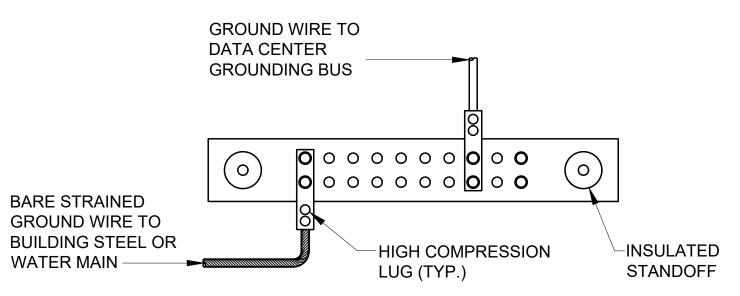
E500 / NOT TO SCALE

NOTE:

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



MAIN GROUNDING BUS - DETAIL



CONSU				
S	ch	ne ₽ EI	ec	ler
IT	12150 MONUI	N CRITIC MENT DRIVE SUI 703-968-0300	TE 150 FAIRFAX,	
F		chneider I n Critical Ise pursua	Services	, Inc.
DOCU PROFI ACTIN PROFI THE A AND THEIR ALTER	MENT THA ESSIONAL E IG UNDER ESSIONAL E ALTERING EI THE NOTAT SIGNATUF	NT BEARS NGINEER, THE DIRE NGINEER I NGINEER S ION "ALTE RE AND O A SPECIF	S THE UNLESS T CTION OF N THE ST/ SHALL AFF RED BY" THE DAT IC DESCR	TO ALTER TH SEAL OF HE PERSON TA LICENSI ATE OF WOF IX THEIR SE FOLLOWED TE OF SUG IPTION OF T
SEAL:	N CON	otfi	DR JCTIC)M
0KV REFE	V DAT REN AB C	A CE CE D	ESIG	
KEYPLA	AN:			
KEYPLA	N:			
KEYPLA	AN:			
REV.	DATE	_		DRAWINGS
		_		RAWINGS
REV.	DATE	_		PRAWINGS
REV. 0 1	DATE	_		PRAWINGS
REV. 0 1	DATE	_		PRAWINGS
REV. 0 1	DATE	_		PRAWINGS
REV. 0 1	DATE 03/26/19	_		PRAWINGS
REV. 0 1 2	DATE 03/26/19	CONC		DRAWINGS
REV. 0 1 2 DRAWN CHECKI	DATE 03/26/19	GR		PRAWINGS
REV. 0 1 2 DRAWN CHECKI	DATE 03/26/19	GR		
REV. 0 1 2 DRAWN CHECKI	DATE 03/26/19	GR	EPTUAL D	
REV. 0 1 2 DRAWN CHECKI	DATE 03/26/19 I BY: ED BY: CT NUMBER	GR	EPTUAL D	
REV. 0 1 2 DRAWN CHECKI PROJEC DRAWIN	DATE 03/26/19 I BY: ED BY: CT NUMBER		EPTUAL D	X AILS

DRAWING NUMBER:

E500

VOLTAG			ISTR	IBUT	ION	PANI	ELBO	ARD	<u>'MDF</u>	<u>-100</u>	<u>)' sc</u> i	HEDU	ILE			
		MCB (A)		.O (A)	AIC		NTING		TION				PANEL C	ATALOG	NUMBER :	
120 / 208				300	65,000		FACE		DULE							
CKT				_				PHASE	0	4	COND.	WIRE	CIRCUI			
# 1	SERVED	TR	P P	SIZE	SIZE	(KVA)	A 30.33	В	C	(KVA)	SIZE	SIZE	P	TRIP	SERVED	# 2
3	UPS	35	0 3	2 #250	2-1/2"	91.00		30.33	\leq	-					SPACE	4
5							\geq	\geq	30.33							6
7					4.11		10.91		\rightarrow		o (411		•			8
9 11	HVAC-101	80) 3	3	1"	28.40		10.91	10.91	4.32	3/4"	12	3	15	COND-101	10
13							7.76		10.91							14
15	HVAC-102	70) 3	4	1"	18.95	\geq	7.76	\searrow	4.32	3/4"	12	3	15	COND-102	16
17									7.76							18
19 21	HVAC-103	70) 3	4	1"	18.95	7.76	7.76	>	4.32	3/4"	12	3	15	COND-103	20 22
23	HVAC-103			4		10.95		7.70	7.76	4.52	5/4	12	3	15	COND-103	24
25							0.00	\leq	>>>							26
27	HVAC-104(REDUNDANT)	80) 3	3	1"	0.00	\geq	0.00	\ge	0.00	3/4"	12	3	15	COND-104(REDUNDANT)	28
29					0 (4 !!			\geq	0.00		0.44	- 10	4			30
31 33	ERV & DAMPER SYSTEM RECEPTACLES	20		12 12	3/4" 3/4"	0.60	1.20	1.26		0.60	3/4"	12	1	20 20	FIRE SUPPRESSION SPARE	32
35							\bowtie	1.20	3.50	1.00	3/4"	12	1	20	CONTROLS POWER	34
37	GENERATOR POWER PANE	EL 30	2	10	3/4"	5.00	3.50	\leq		1.00	3/4"	12	1	20	EXTERIOR LIGHTING	38
39	INTERIOR LIGHTING	20		12	3/4"	0.50		0.50	\geq						SPACE	40
41	SPARE	20) 1			0.00			0.00						SPACE	42
43							0.00		>						SPACE	44
45	SPACE							0.00	0.00	-					SPACE	46
47 49							0.00	>	0.00							50
51	SPACE							0.00	>						SPACE	52
53							\square		0.00							54
55							0.00	\geq	\ge	-						56
57	SPACE						\geq	0.00	\geq	0.00	3/4"	6	3	60	SPD BREAKER	58
59							61.45	58.51	0.00 60.25							60
LOAD	L(DAD				SUBLO	ADS (KVA		00.23			TOTAL	DEM	DEM	NOTES	
TYPE		(VA) PN	L PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	(KVA)	FAC	LD		
		1.00 -		-	-	-	-	-	-	-	-	91.00	1.00	91.00	-	
HVAC-101	1 28	8.40 -		-	-	-	-	-	-	-	-	28.40 18.95	1.00 1.00	28.40 18.95	-	
	2 19	8 05			-	-	-		-			18.95	1.00	18.95	-	
HVAC-102 HVAC-103		8.95 - 8.95 -		-	-	-	-	-	-	- 1	-	1 10.30 1				
HVAC-103	3 18	0.05	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00		
HVAC-103 HVAC-104 COND-10	3 18 4(REDUNDANT) 0 01 4	8.95 - 0.00 - 1.32 -	-				- - -					0.00 4.32	0.00	0.00 4.32		
HVAC-103 HVAC-104 COND-10 COND-102	3 18 4(REDUNDANT) 0 01 4 02 4	8.95 -).00 - I.32 - I.32 -	-	-	-	-	- - -	-	-	-	-	0.00 4.32 4.32	0.00 1.00 1.00	0.00 4.32 4.32		
HVAC-103 HVAC-104 COND-10 COND-102 COND-103	3 18 4(REDUNDANT) 0 01 4 02 4 03 4	8.95 -).00 - I.32 - I.32 - I.32 -	- - - - -	- - -	- - -	- - - -	- - - -	- - -	- - -	- - -	- - -	0.00 4.32 4.32 4.32	0.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32		
HVAC-103 HVAC-104 COND-10 COND-103 COND-103 COND-104	3 18 4(REDUNDANT) 0 01 4 02 4 03 4 04(REDUNDANT) 0	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 -	- - - - - -	- - - -	- - - -	- - - -	- - - - - -	- - - -	- - - -	- - - -	- - - -	0.00 4.32 4.32 4.32 0.00	0.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32 0.00		
HVAC-103 HVAC-104 COND-10 COND-103 COND-104 COND-104 ERV & DA	3 18 4(REDUNDANT) 0 01 4 02 4 03 4 04(REDUNDANT) 0 0AMPER SYSTEM 0	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 -	- - - - - - - -	- - -	- - -	- - - -	- - - - - - - - -	- - -	- - -	- - -	- - -	0.00 4.32 4.32 4.32 0.00 0.60	0.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32 0.00 0.60		
HVAC-103 HVAC-104 COND-10 COND-103 COND-103 COND-104 ERV & DA RECEPTA	3 18 4(REDUNDANT) 0 01 4 02 4 03 4 04(REDUNDANT) 0 04(REDUNDANT) 0 0AMPER SYSTEM 0 0ACLES 1	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 -	- - - - - - - - - - -	- - - - -	- - - - -	- - - - -	- - - - - - - - - - -	- - - - -	- - - - -	- - - - -	- - - - -	0.00 4.32 4.32 4.32 0.00	0.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32 0.00		
HVAC-103 HVAC-104 COND-100 COND-100 COND-100 COND-100 ERV & DA RECEPTA GENERAT NTERIOF	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 0.00 - 0.00 - 0.60 - 0.60 - 0.60 - 0.50 -	- - - - - - - - - - - - - - - - -	- - - - - - - -	- - - - - - -	- - - - - -	- - - - - - - - - - - - -	- - - - - -	- - - - - - - -	- - - - - -	- - - - - -	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50		
HVAC-103 HVAC-104 COND-107 COND-107 COND-107 COND-104 ERV & DA RECEPTA GENERAT NTERIOF FIRE SUP	3 18 4(REDUNDANT) 0 01 4 02 4 03 4 04(REDUNDANT) 0 04(REDUNDANT) 0 04(REDUNDANT) 0 04(REDUNDANT) 0 AMPER SYSTEM 0 ACLES 1 TOR POWER PANEL 5 R LIGHTING 0 PRESSION 0	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 0.00 - 0.00 - 0.60 - 0.50 - 0.50 - 0.60 -		- - - - - - - - - -	- - - - - - -	- - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - -	- - - - - - - -	- - - - - - - - -	- - - - - - - -	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60		
IVAC-103 IVAC-104 COND-100 COND-100 COND-100 COND-100 ERV & DA ERV & DA RECEPTA GENERAT SENERAT NTERIOF FIRE SUP	3184(REDUNDANT)001402403404(REDUNDANT)00AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PR LIGHTING1	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.50 - 0.50 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 -		- - - - - - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - -	- - - - - - - - - - - - -	- - - - - - - - - - - - - -	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00		
IVAC-103 IVAC-104 COND-100 COND-100 COND-100 COND-100 ERV & DA RECEPTA GENERAT NTERIOF FIRE SUP EXTERIO CONTROI	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION1US POWER1	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.00 - 0.60 - 0.50 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 -		- - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00		
IVAC-103 IVAC-104 COND-107 COND-107 COND-107 COND-107 COND-107 ERV & DA RECEPTA GENERAT NTERIOF FIRE SUP EXTERIO CONTROI SPARE	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION0PRESSION001US POWER1000000000000000000000000	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 -		- - - - - - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - -	- - - - - - - - - - - - -	- - - - - - - - - - - - - -	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00		
IVAC-103 IVAC-104 COND-100 COND-100 COND-100 COND-100 ERV & DA RECEPTA GENERAT GENERAT NTERIOF FIRE SUP	3 18 4(REDUNDANT) 0 01 4 02 4 03 4 04(REDUNDANT) 0 04(REDUNDANT) 0 0AMPER SYSTEM 0 ACLES 1 TOR POWER PANEL 5 R LIGHTING 0 PRESSION 0 PRESSION 0 0R LIGHTING 1 0LS POWER 1	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.00 - 0.60 - 0.50 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - -		- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 0.00 0.00	TOTAL KVA	
IVAC-103 IVAC-104 COND-107 COND-107 COND-107 COND-107 COND-107 ERV & DA RECEPTA GENERAT NTERIOF FIRE SUP EXTERIO CONTROI SPARE SPARE	3184(REDUNDANT)001402403404(REDUNDANT)004(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION001LS POWER100Largest Motor Load7	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 0.00 0.00	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 0.00 0.00	TOTAL KVA	
IVAC-103 IVAC-104 COND-107 CONTROI CONT	3184(REDUNDANT)001402403404(REDUNDANT)004(REDUNDANT)004(REDUNDANT)004(REDUNDANT)004(REDUNDANT)004(REDUNDANT)004(REDUNDANT)004(REDUNDANT)005(R)007(R)008(R)109(R)009(R)100(R)000(R)000(R)000(R)000(R)000(R)000(R)000(R)000(R)000(R)001(R)002(R)003(R)004(R)005(R)007(R)008(R)009(R)0 <td>8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 - 0.00 - 7.10 -</td> <td></td> <td></td> <td>- - - - - - - - - - - - - - - - - -</td> <td>- - - - - - - - - - - - - -</td> <td>- - - - - - - - - - - - - - - - - - -</td> <td>- - - - - - - - - - - - - - -</td> <td>- - - - - - - - - - - - - -</td> <td>- - - - - - - - - - - - - - - -</td> <td></td> <td>0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10</td> <td>0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td> <td>0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10</td> <td>TOTAL KVA</td> <td></td>	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 - 0.00 - 7.10 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -		0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10	TOTAL KVA	
IVAC-103 IVAC-104 OND-107 ONTROI O	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION0US POWER1US POWER1UPS Continuous Load7uPS Continuous Load34	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 - 0.00 - 7.10 - 4.95 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -		0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 1.00 0.00 180.22 7.10 34.95	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10 34.95	TOTAL KVA	
IVAC-103 IVAC-104 COND-107 CONTROI CONTR	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION0US POWER1US POWER1UPS Continuous Load7uPS Continuous Load34	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 - 0.00 - 7.10 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10	-	
VAC-103 VAC-104 OND-107 OND-107 OND-107 OND-107 OND-107 OND-107 EXERIT EXERT FOR EXERT SENERAT	3184(REDUNDANT)001402403404(REDUNDANT)0AMPER SYSTEM0ACLES1TOR POWER PANEL5R LIGHTING0PRESSION0PRESSION0PRESSION0US POWER1US POWER1UPS Continuous Load7uPS Continuous Load34	8.95 - 0.00 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 1.32 - 0.00 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.60 - 0.00 - 0.00 - 0.00 - 7.10 - 4.95 -			- - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -		- - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - - - -		0.00 4.32 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 1.00 0.00 180.22 7.10 34.95	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	0.00 4.32 4.32 0.00 0.60 1.26 5.00 0.50 0.50 0.60 1.00 1.00 1.00 0.00 0.00 180.22 7.10 34.95 2.03	TOTAL KVA SUM TOTAL KVA(125% CONTINUOUS LOAD+ 100% CONTINUOUS LOAD+ 100% MOTOR LOADS+ 25% LARG MOTOR LOAD)	

3-WIRE FEEDER SIZING
SCHEDULE

				1
SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDUI
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"

+ WHERE THE FEEDER SYMBOL IS SHOWN WITH A SUBSCIPT '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.

	4-W		FEEDER CHEDUL	_	IG
	SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDUIT
3/4"	4W-15	1	4 #12	#12	3/4"
3/4"	4W-20	1	4 #12	#12	3/4"
3/4"	4W-25	1	4 #10	#12	3/4"
3/4"	4W-30	1	4 #10	#10	3/4"
3/4"	4W-35	1	4 #8	#10	3/4"
3/4"	4W-40	1	4 #8	#10	3/4"
3/4"	4W-45	1	4 #8	#10	3/4"
3/4"	4W-50	1	4 #8	#10	3/4"
3/4"	4W-60	1	4 #6	#10	1"
1"	4W-70	1	4 #4	#8	1-1/4"
1"	4W-80	1	4 #4	#8	1-1/4"
-1/4"	4W-90	1	4 #3	#8	1-1/4"
-1/4"	4W-100	1	4 #3	#8	1-1/4"
-1/4"	4W-110	1	4 #2	#6	1-1/4"
-1/4"	4W-125	1	4 #1	#6	1-1/2"
I-1/2"	4W-150	1	4 1/0	#6	2"
2"	4W-175	1	4 2/0	#6	2"
2"	4W-200	1	4 3/0	#6	2"
2"	4W-225	1	4 4/0	#4	2-1/2"
2-1/2"	4W-250	1	4 250 MCM	#4	2-1/2"
2-1/2"	4W-300	1	4 350 MCM	#4	3"
3"	4W-350	1	4 500 MCM	#3	3"
2"	4W-400	2	4 3/0	#3	2"
2"	4W-450	2	4 4/0	#2	2-1/2"
2-1/2"	4W-500	2	4 250 MCM	#2	2-1/2"
2-1/2"	4W-600	2	4 350 MCM	#1	3"
3"	4W-700	2	4 500 MCM	1/0	3"
2-1/2"	4W-800	3	4 300 MCM	1/0	2-1/2"
2-1/2"	4W-1000	3	4 400 MCM	2/0	3"
2-1/2"	4W-1200	4	4 350 MCM	3/0	3"
2-1/2"	4W-1600	5	4 400 MCM	4/0	3"
2-1/2"	4W-2000	6	4 400 MCM	250 MCM	3"
3"	4W-2500	7	4 500 MCM	350 MCM	3"
3"	4W-3000	8	4 500 MCM	400 MCM	3"
3"	4W-4000	11	4 500 MCM	500 MCM	3"
3-1/2"	4W-5000	11	4 700 MCM	700 MCM	4"
8-1/2"	4W-6000	13	4 750 MCM	800 MCM	4"
BSCIPT ATE E	'IG', THE FEED	ER SHAL DUND CO	SYMBOL IS SHO L BE PROVIDED NDUCTOR SIZEI	WITH A SEP	ERATE
16)			ASED ON NEC T TORS RATED AT		ō(B)(16)
ON	-EQUIPMENT G	GROUNDI	NG CONDUCTOR	R SIZING BA	SED ON
THHN, IC	-CONDUIT SIZI	NG BASE	ED ON NEC TABL	E C.1 FOR T	

S		
	ch	neider Electric
IT	12150 MONUM	CRITICAL SERVICES, INC. ENT DRIVE SUITE 150 FAIRFAX, VA. 22033 3-968-0300 FX: 703-654-3680
P	Mission	nneider Electric IT Critical Services, Inc. e pursuant to company policy
DOCUI PROFE ACTIN PROFE THE A AND THEIR ALTER	MENT THAT ESSIONAL EN G UNDER T ESSIONAL EN LTERING EN THE NOTATIC SIGNATURE RATION, AND	FOR ANY PERSON TO ALTER THIS BEARS THE SEAL OF A IGINEER, UNLESS THE PERSON IS THE DIRECTION OF A LICENSED IGINEER IN THE STATE OF WORK. GINEER SHALL AFFIX THEIR SEAL ON "ALTERED BY" FOLLOWED BY E AND THE DATE OF SUCH A SPECIFIC DESCRIPTION OF THE E DOCUMENT.
SEAL:	N	ot FOR ION STRUCTION
	CON	51.
0KV EFE	RENC	A CENTER CE DESIGN ONFIGURATION-
KEYPLA	N:	
REV.	DATE	DESCRIPTION
0	DATE 03/26/19	DESCRIPTION CONCEPTUAL DRAWINGS
0		
0		
0 1 2	03/26/19	
0 1 2 DRAWN	03/26/19 BY:	GR
0 1 2 DRAWN CHECKE	03/26/19 BY: ED BY:	CONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE	03/26/19 BY:	GR
0 1 2 DRAWN CHECKE PROJEC	03/26/19 BY: ED BY:	CONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET	BY: ED BY: CT NUMBER: IG SCALE: ITTLE: CTRIC IEDUI	CONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET	BY: ED BY: CT NUMBER: IG SCALE: ITTLE: CTRIC IEDUI	CONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET ⁻ ELE SCH CON	03/26/19 BY: ED BY: ED BY: ET NUMBER: IG SCALE: IG SCALE: INTLE: ECTRIC IEDUI NFIGU	CONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET T ELE SCH CON	BY: ED BY: CT NUMBER: IG SCALE: ITTLE: CTRIC IEDUI	CONCEPTUAL DRAWINGS

SYSTEM LOAD CA	LCULATI	ON
ITEM	LOAD	UNIT
CRITICAL LOAD	91.000	KVA
HVAC 101	28.400	KVA
COND 101	4.320	KVA
HVAC 102	18.950	KVA
COND 102	4.320	KVA
HVAC 103	18.950	KVA
COND 103	4.320	KVA
HVAC 104(REDUNDANT)	0.000	KVA
COND 104(REDUNDANT)	0.000	KVA
ERV & DAMPER SYSTEM	0.600	KVA
FIRE SUPPRESSION	0.600	KVA
RECEPTACLES	1.260	KVA
GENERATOR POWER PANEL	5.400	KVA
CONTROLS POWER	1.000	KVA
INTERIOR LIGHTING	0.5	KVA
LOBBY VENTILATION	0.12	KVA
EXTERIOR LIGHTING	1	KVA
TOTAL KVA	180.740	KVA

	TAGE
120/	208
CKT	
#	
1	
3	
5	
7	
5 7 9 11	
11	
13	
15	
17	
19	
21	
23	
13 15 17 29 25 27 29 31 33 35 37	
27	
29	
31	
33	
35	
37	
20	
39	
41 43 45	
43	
47	
49	
51	
53	
55	
57	
59	
61	
63	
65	
67	
69	
71	
11	
NOTE	C.
RACK	S HA

TAGE	PH	WIRE	MCB	(A)	MLC) (A)	AIC	MOU	NTING	LOCA	ATION				PANEL	CATALOG	NUMBER
208	3	4	600				65,000	SURI	FACE		DULE						
		ITEM			BRK	WIRE	COND.	LOAD		PHASE		LOAD		WIRE	CKT	BRK	ITEM
		SERVED		TRIP	P	SIZE	SIZE	(KVA)	A	В	C	(KVA)	SIZE	SIZE	Р	TRIP	SERVE
									5.45	\geq		-					
		RACK#1		30	3	10		8.18	\geq	5.45	\geq	8.18		10	3	30	RACK
										\geq	5.45						
									5.45		\geq				-		/
		RACK#2		30	3	10		8.18	\langle	5.45		8.18		10	3	30	RACK
									5.45	\langle	5.45						
				20	2	10		0.40	5.45	5.45	$\langle \rangle$			10	2	20	
		RACK#3		30	3	10		8.18	\bigcirc	5.45	5.45	8.18		10	3	30	RACK
									5.45	\bigcirc	5.45					-	
		RACK#4		30	3	10		8.18		5.45	\leq	8.18		10	3	30	RACK#
				50				0.10	>		5.45			10	5	50	
									5.45	\leq							
		RACK#5		30	3	10		8.18		5.45	\leq	8.18		10	3	30	RACK#
				00				0.10	>		5.45			10	Ū		
									2.73	\leq		-					
		RACK#6		30	3	10		8.18	2.10	2.73	\leq	~					SPAC
				00				0.10	>		2.73	-					
									0.00	\leq							
		SPACE								0.00	\leq	-					SPAC
		0.7.02							\leq		0.00						01710
									0.00	\leq							
		SPACE							\sim	0.00	\leq						SPAC
									\leq	\sim	0.00	1					
									0.00	\leq	\sim						
		SPACE							\sim	0.00	\leq	>					SPAC
									\leq	\sim	0.00	1					
									0.00	\leq	\sim						
		SPACE							\sim	0.00	\sim	1					SPAC
									\leq	\sim	0.00						
									0.00	\leq	\sim						
		SPACE							\sim	0.00	\sim	1					SPAC
									\leq	\sim	0.00	-					
		CP-100		15	1	12		1.00	1.00	\sim		-					
		SPARE		15	1	_		0.00	\geq	0.00	\sim	>					SPAC
		SPARE		15	1			0.00	\sim	\geq	0.00	1					
					•	1			30.99	29.99	29.99						
S:												1					

DISTRIBUTION PANELBOARD 'MBP-300' SCHEDULE

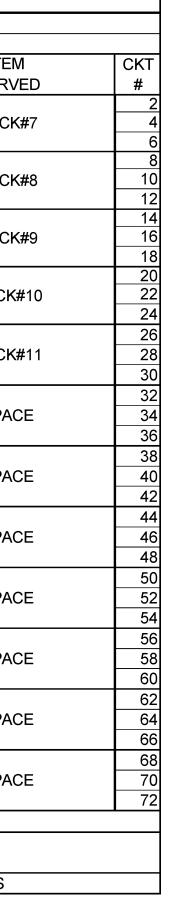
 <u>-S:</u>
 90.98
 TOTAL KVA

 AND FACTOR IN ACCORANCE WITH NEC.
 90.98
 TOTAL KVA

 (S HAVE (N) DISTRIBUTION. OPTIONAL UPGRADE TO (2N) DISTRIBUTION SHALL BE AVAILABLE ON REQUEST.
 252.54
 TOTAL AMPS

PLAN NOTES:

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



S	_	
S	chn	
		elder
	Ĵ	eider Electric
IT		RITICAL SERVICES, INC.
	PH: 703-968-0	3300 FX: 703-654-3680
		der Electric IT tical Services, Inc.
P		rsuant to company policy
IT IS A	VIOLATION FOR	ANY PERSON TO ALTER THI
DOCUN PROFE	IENT THAT B SSIONAL ENGINE	EARS THE SEAL OF A
PROFE	SSIONAL ENGINE	DIRECTION OF A LICENSEI ER IN THE STATE OF WORF ER SHALL AFFIX THEIR SEA
THEIR	SIGNATURE A	ALTERED BY" FOLLOWED B ND THE DATE OF SUC PECIFIC DESCRIPTION OF TH
	ATION TO THE DO	
SEAL:		
		FORTION
	NOT	FUCTIO NUCTIO
	NST	K
	c ^O .	
		_
		CENTER DESIGN
KEF	AB CON	IFIGURATION
KEYPLAI	N:	
REV.	DATE DI	ESCRIPTION
REV.		ESCRIPTION ONCEPTUAL DRAWINGS
REV. 0 1		
0		
0		
0		
0 1 2	03/26/19 C	ONCEPTUAL DRAWINGS
0 1 2	03/26/19 C	ONCEPTUAL DRAWINGS
0 1 2 DRAWN	03/26/19 C	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER:	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER:	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET T	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: E G SCALE: NO ITLE:	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET T ELE SCH	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [] G SCALE: NO ITLE: CTRICA	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET T ELE SCH	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [] G SCALE: NO ITLE: CTRICA	
0 1 2 DRAWN CHECKE PROJEC DRAWIN CHEET T ELE SCH	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [] G SCALE: NO ITLE: CTRICA	ONCEPTUAL DRAWINGS
0 1 2 DRAWN CHECKE PROJEC DRAWIN SHEET T ELE SCH CON	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [] G SCALE: NO ITLE: CTRICA	ONCEPTUAL DRAWINGS
0 1 2 RAWN HECKE ROJEC RAWIN HEET T	03/26/19 C 03/26/19 C BY: GR D BY: MN T NUMBER: [G SCALE: NC ITLE: CTRICA IEDULE IFIGUR	ONCEPTUAL DRAWINGS