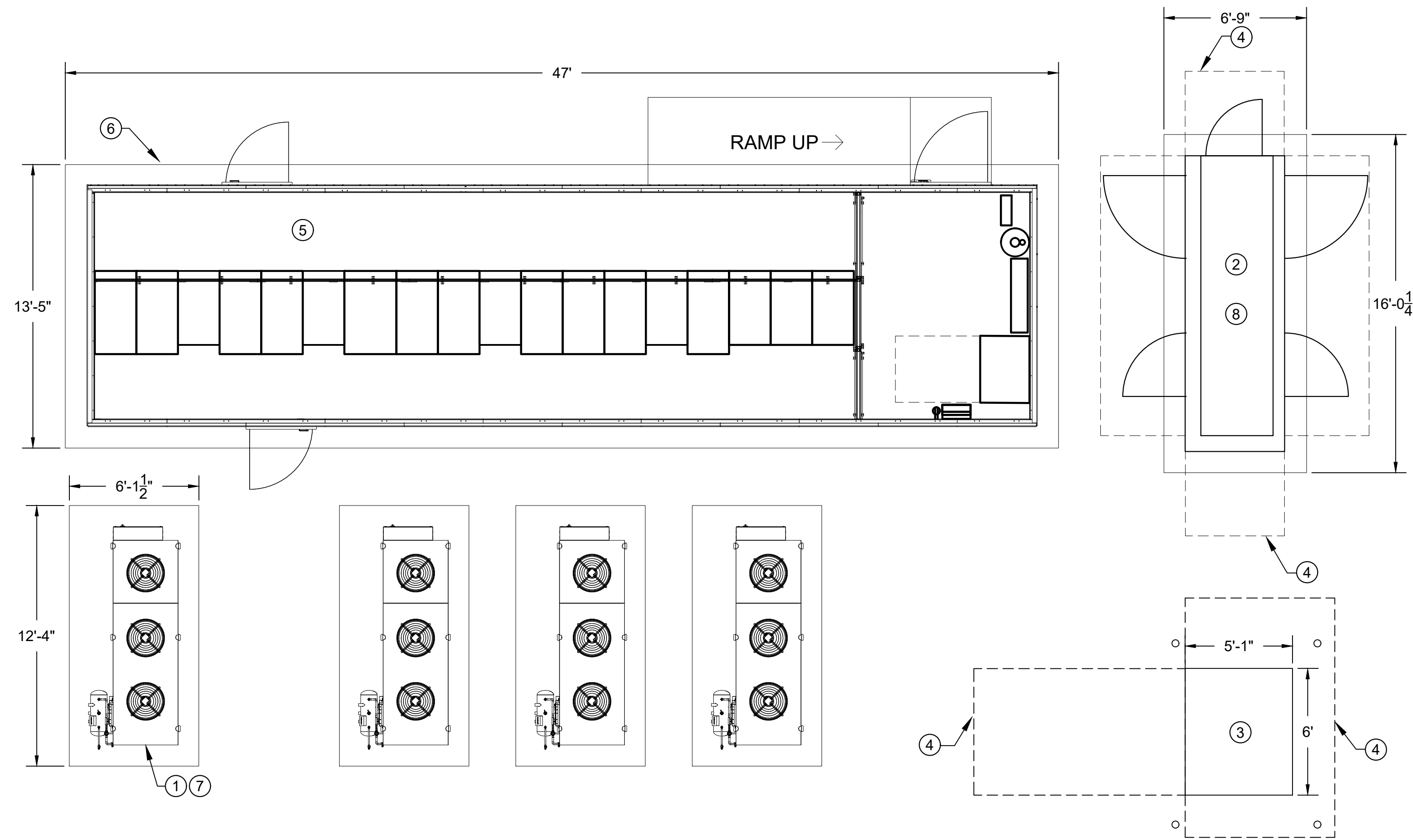


PREFAB CONFIGURATION-7

PREFAB FRAME SIZE (KW)	MAX IT LOAD (KW)	PREFAB MODULE DIMENSIONS (APPROXIMATE)			MDP-100 SYSTEM VOLTAGE LEVEL (V)	UPS SYSTEM MODEL	ATS MODEL	ATS (A)	IN ROW COOLING UNIT MODEL/ CONDENSING UNIT MODEL	NO. OF IN ROW COOLING UNITS	NO. OF CONDENSING UNITS	IT RACK (MODEL)/ NETWORKING IT RACK(MODEL)	NO. OF IT RACKS	RACK DENSITY (KW/RACK)	NUMBER OF SINGLE PHASE POLES IN MBP	IT RACK DIMENSIONS (APPROXIMATE)			IT RACK DISTRIBUTION UNIT (MODEL)
		DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)												DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	
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



GENERAL NOTES:

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

PLAN NOTES:

- OUTDOOR CONDENSING UNIT ACCD75228. CONDENSING UNIT ACCD75234 IS AVAILABLE AS A SINGLE FAN OPTION (TYPICAL OF 4 UNITS).
- 250KW/313KVA STAND BY GENERATOR.
- UTILITY TRANSFORMER.
- REQUIRED CLEARANCE (TYPICAL).
- REFER TO DRAWING E102 FOR PREFAB MODULE DETAILS.
- CONCRETE PAD(TYPICAL).
- A BUILT-IN DISCONNECT SHALL BE INCLUDED WITH EACH CONDENSING UNIT(TYPICAL OF 4).

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

ELECTRICAL SITE LAYOUT PLAN CONFIGURATION-7

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

CONSULTANTS:



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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

CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
**ELECTRICAL
SITE LAYOUT PLAN
CONFIGURATION-7**

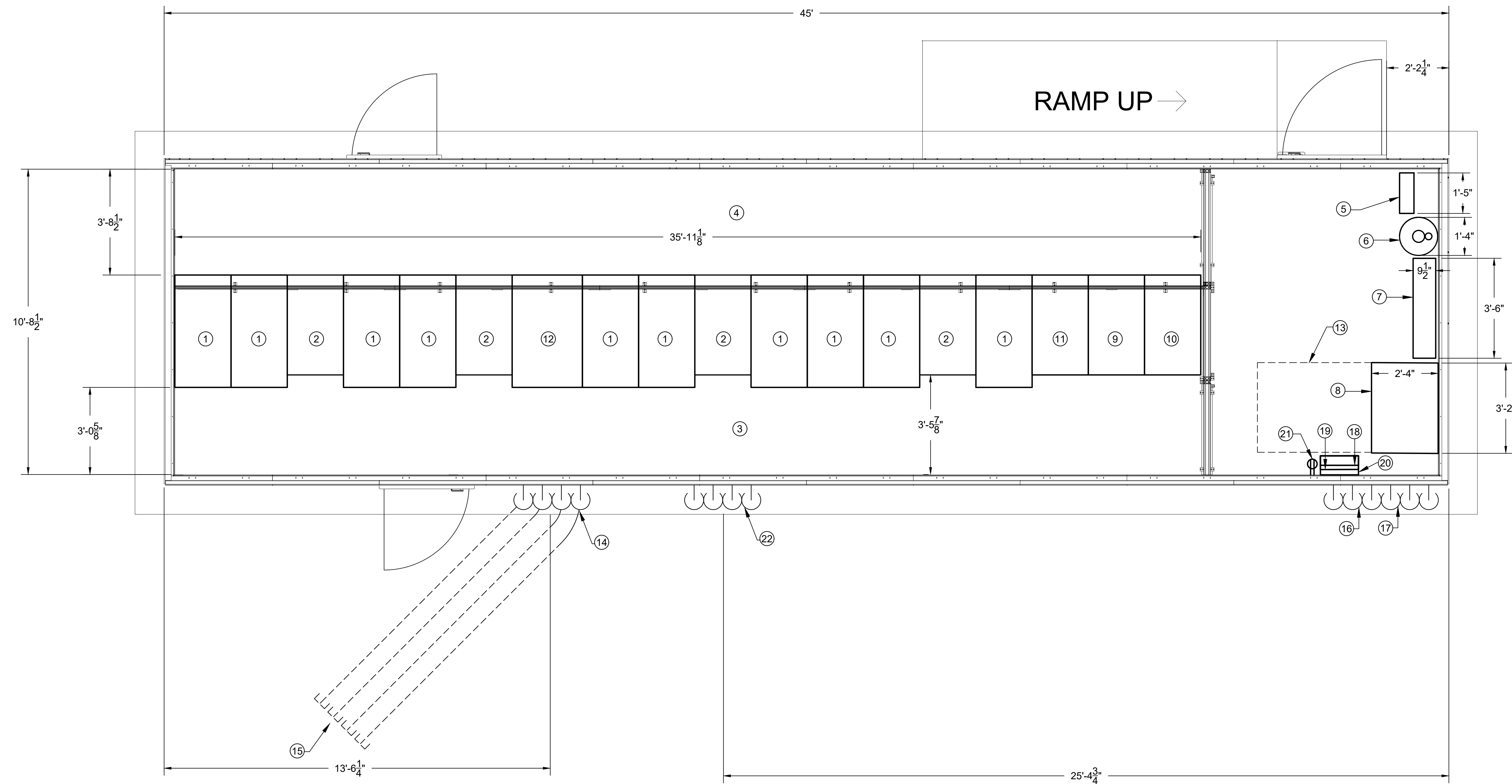
DATE:
06/05/18

DRAWING NUMBER:

E101

PREFAB CONFIGURATION-7

PREFAB FRAME SIZE (KW)	MAX IT LOAD (KW)	PREFAB MODULE DIMENSIONS (APPROXIMATE)			MDP-100 SYSTEM VOLTAGE LEVEL (V)	UPS SYSTEM MODEL	ATS MODEL	ATS (A)	IN ROW COOLING UNIT MODEL/ CONDENSING UNIT MODEL	NO. OF IN ROW COOLING UNITS	NO. OF CONDENSING UNITS	IT RACK (MODEL)/ NETWORKING IT RACK(MODEL)	NO. OF IT RACKS	RACK DENSITY (KW/RACK)	NUMBER OF SINGLE PHASE POLES IN MBP	IT RACK DIMENSIONS (APPROXIMATE)			IT RACK DISTRIBUTION UNIT (MODEL)
		DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)												DEPTH (FT)	WIDTH (FT)	HEIGHT (FT)	
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



GENERAL NOTES:

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

PLAN NOTES:

- IT RACK.
- DX600 IN-ROW COOLING UNIT.
- HOT AISLE.
- COLD AISLE.
- FIRE ALARM CONTROL PANEL. THE FIRE ALARM SYSTEM INSTALLATION SHALL BE AS PER NFPA 72 REQUIREMENTS.
- FIRE SUPPRESSION CANISTER.
- 208V MAIN(I-LINE) DISTRIBUTION PANEL(MDP-100).
- ASCO-300 MODEL(208V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION (ATS-MDP-100).
- PX100 UPS MODULE.
- PX100 UPS BATTERY CABINET.
- PX100 UPS POWER DISTRIBUTION CABINET.
- NETWORKING IT RACK.
- REQUIRED CLEARANCE(TYPICAL).
- 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.
- 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 THREE(3) 3" CONCRETE ENCASED UNDERGROUND PVC SCH-80 CONDUITS FOR POWER FROM UTILITY.
- PROVIDE THREE(3) 3" AND TWO(2) 3/4" CONCRETE ENCASED UNDERGROUND PVC SCH-80 CONDUITS FOR POWER AND CONTROLS FROM GENERATOR.
- GENERATOR ANNUNCIATOR PANEL (OPTIONAL).
- CP-100 CONTROL PANEL.
- ACCESS CONTROL PANEL(OPTIONAL).
- 120V RECEPTACLE(TYPICAL).
- CONDUITS AND PIPES FOR COOLING CONNECTIONS FROM CONDENSING UNITS. CONDUITS AND PIPES SHALL BE CONNECTED PERPENDICULARLY TO MODULE WALL AT 114" ABOVE FINISHED SLAB AT LOCATION SHOWN. CO-ORDINATE HEIGHT OF CONDUITS ABOVE FINISHED SLAB AS NECESSARY.

ELECTRICAL PREFAB MODULE DETAILS CONFIGURATION-7

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

CONSULTANTS:



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PROJECT INFORMATION:

90KW DATA CENTER
REFERENCE DESIGN
PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		

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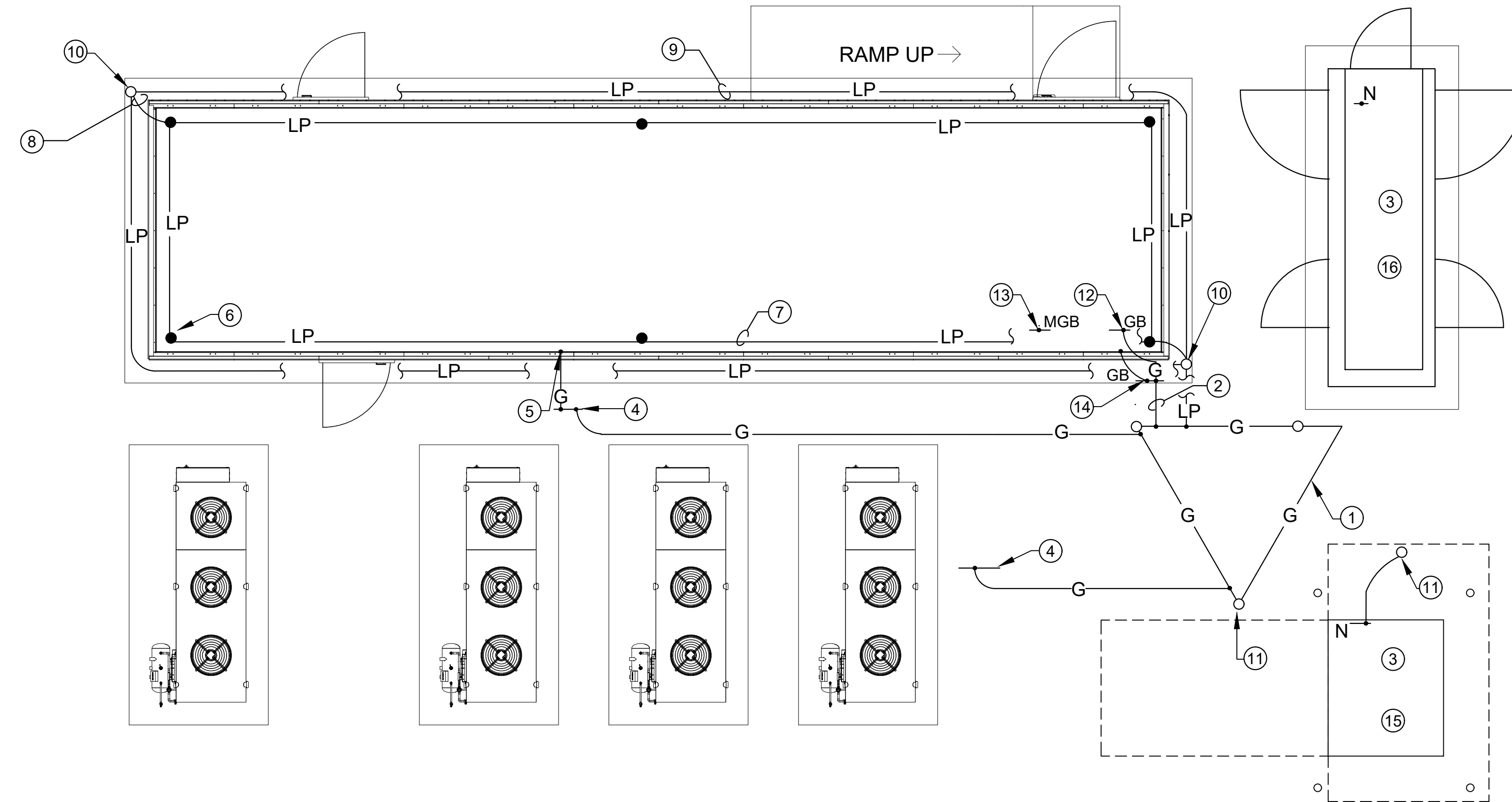
DRAWING SCALE: NONE

SHEET TITLE:
**ELECTRICAL
PREFAB MODULE DETAILS
CONFIGURATION-7**

DATE: 06/05/18

DRAWING NUMBER:

E102



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.
- ③ 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 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.
- ⑪ 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:



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PROJECT INFORMATION:

90KW DATA CENTER
REFERENCE DESIGN
PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		

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PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
GROUNDING AND LIGHTNING PROTECTION PLAN, CONFIGURATION-7

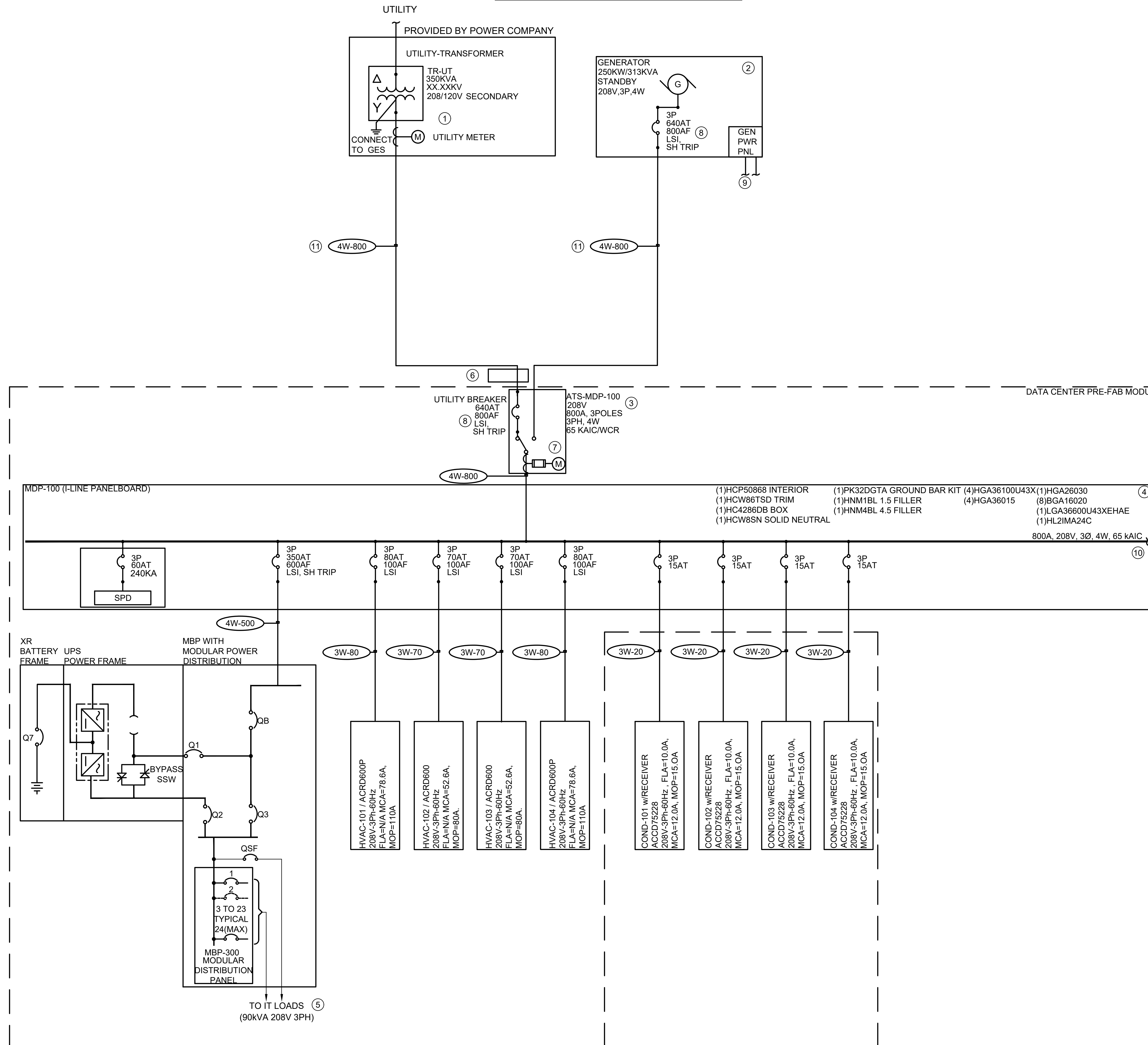
DATE: 06/05/18

DRAWING NUMBER:
E103

GROUNDING AND LIGHTNING PROTECTION PLAN, CONFIGURATION-7

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

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:

- UTILITY METER (TO BE PROVIDED BY POWER COMPANY).
- 250KW/313KVA STANDBY GENERATOR.
- ASCO-300 MODEL(208V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION.
- 800AMP I-LINE PANELBOARD.
- SEE PANEL MBP-300 SCHEDULE ON DRAWING E-601 FOR DETAILS.
- OPTIONAL 800A SERVICE ENTRANCE RATED DISCONNECT SWITCH (PROVIDED BY OTHERS).
- ASCO 5210 POWER METER(OPTIONAL).
- 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.
- 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.
- CONTINUED IN DWG E401.
- CONDUCTORS FROM UTILITY AND GENERATOR SHOWN AS PER WIRE SCHEDULE SHALL BE RUN IN 3" PVC SCH-80 CONDUITS.

CONSULTANTS:



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PROJECT INFORMATION:

90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		

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CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
ELECTRICAL ONE LINE DIAGRAM CONFIGURATION-7

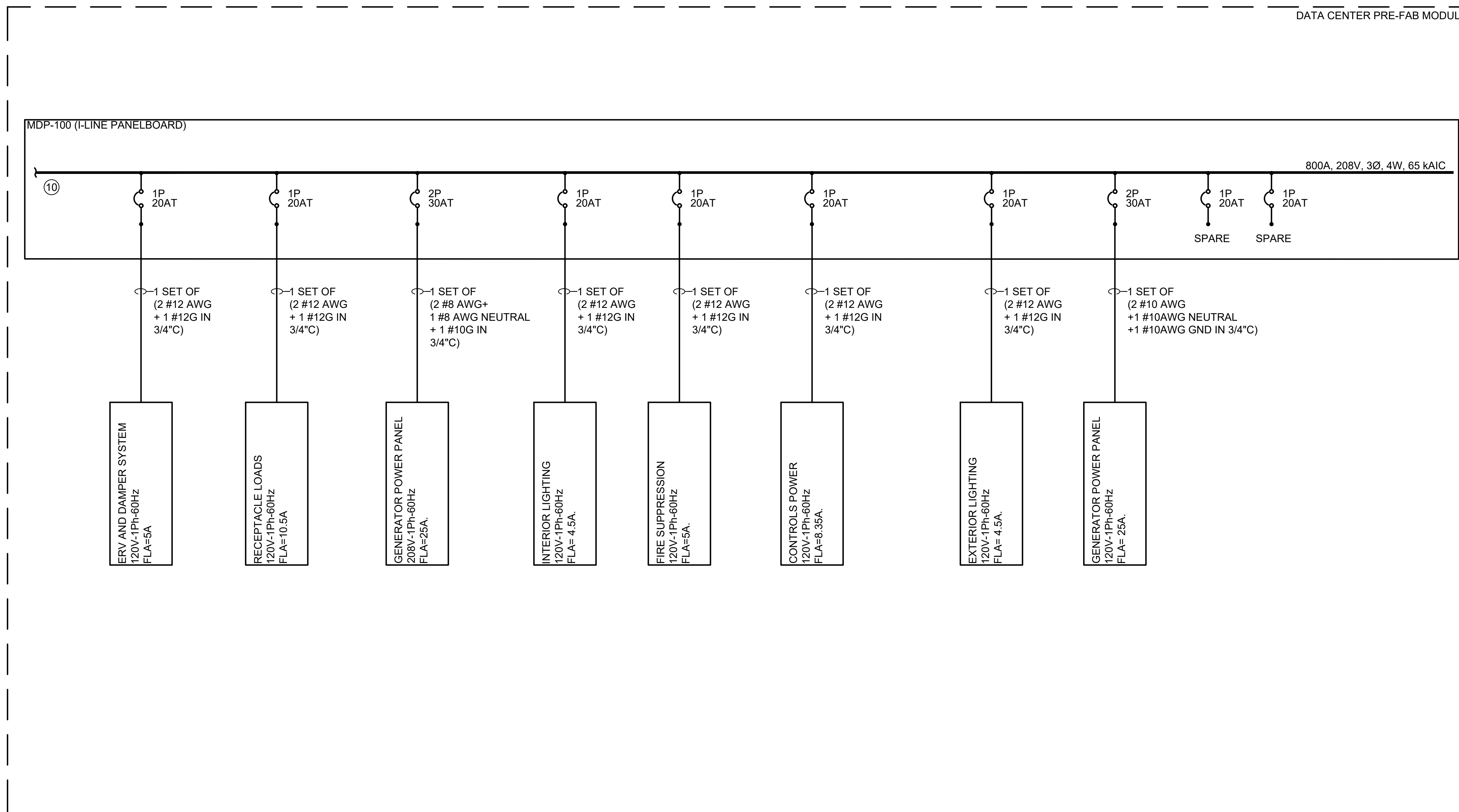
DATE: 06/05/18

DRAWING NUMBER:
E400

ELECTRICAL ONE LINE DIAGRAM:

PLAN NOTES:

⑩ CONTINUED FROM DWG E400.



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KEYPLAN:

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0	03/26/19	CONCEPTUAL DRAWINGS
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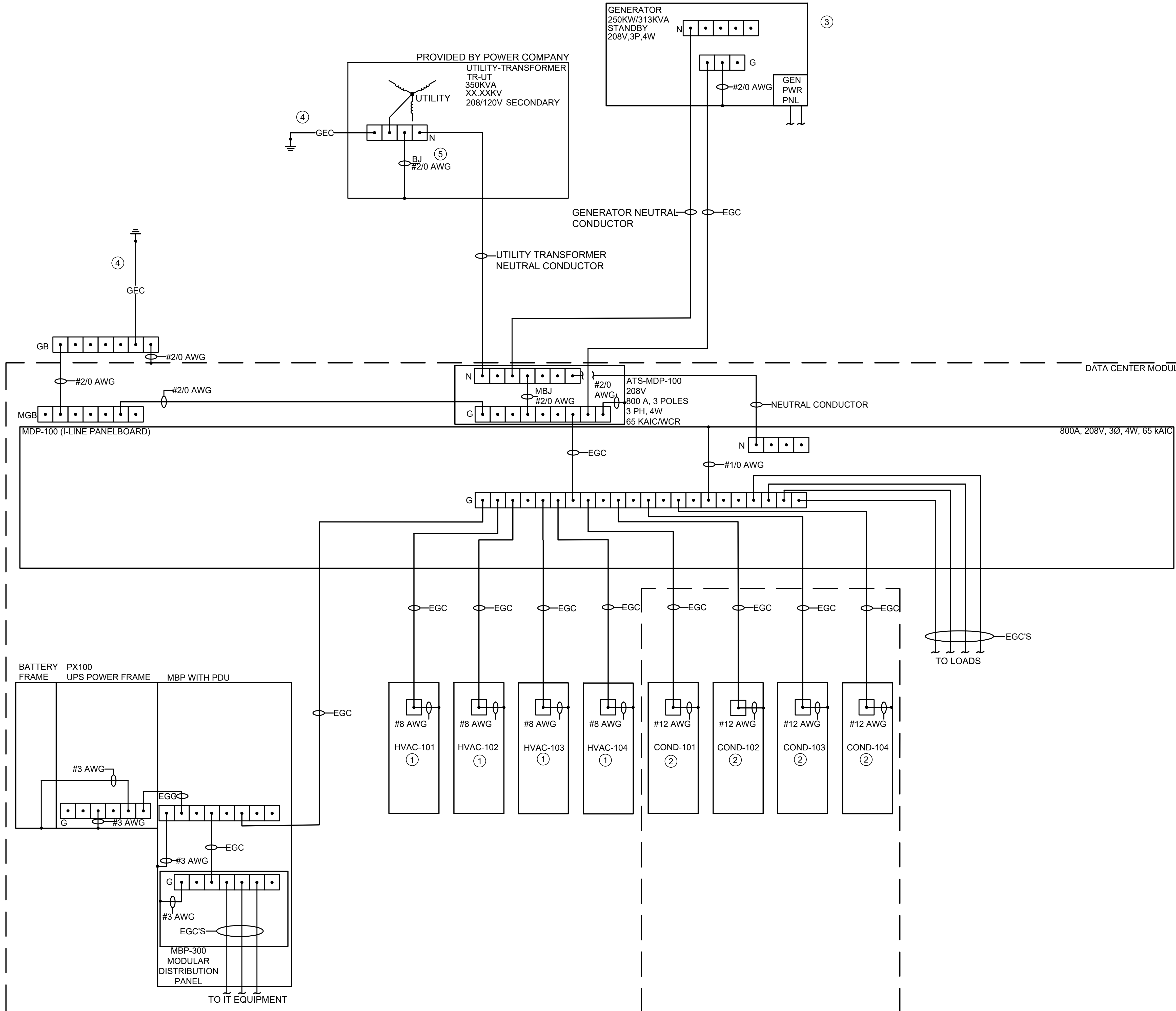
SHEET TITLE:
**ELECTRICAL
ONE LINE DIAGRAM
CONFIGURATION-7**

DATE: 06/05/18

DRAWING NUMBER:

E401

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.

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.
- N NEUTRAL BAR.
- G GROUND BAR.



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

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		

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CHECKED BY: ET

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
**ELECTRICAL
GROUNDING DIAGRAM
CONFIGURATION-7**

DATE: 06/05/18

DRAWING NUMBER:

E410

DISTRIBUTION PANELBOARD 'MDP-100' SCHEDULE															
VOLTAGE	PH	WIRE	MCB (A)	MLO (A)	AIC	MOUNTING SURFACE	LOCATION MODULE	PANEL CATALOG NUMBER :							
120 / 208	3	4		800	65,000										
CKT #	ITEM SERVED	CIRCUIT BRKR TRIP	WIRE SIZE	COND SIZE	LOAD (KVA)	PHASE			LOAD (KVA)	COND SIZE	WIRE SIZE	CIRCUIT BRKR		ITEM SERVED	CKT #
						A	B	C				P	TRIP		
1	UPS	350	3	2 #250	2-1/2"	91.00	30.33	30.33						SPACE	2
3															4
5															6
7	HVAC-101	80	3	3	1"	28.40	10.91	10.91						COND-101	8
9									4.32	3/4"	12	3	15		10
11															12
13	HVAC-102	70	3	4	1"	18.95	7.76	7.76						COND-102	14
15									4.32	3/4"	12	3	15		16
17															18
19	HVAC-103	70	3	4	1"	18.95	7.76	7.76						COND-103	20
21									4.32	3/4"	12	3	15		22
23															24
25							0.00	0.00							26
27	HVAC-104(REDUNDANT)	80	3	3	1"	0.00	0.00	0.00	0.00	3/4"	12	3	15	COND-104(REDUNDANT)	28
29															30
31	ERV & DAMPER SYSTEM	20	1	12	3/4"	0.60	1.20		0.60	3/4"	12	1	20	FIRE SUPPRESSION	32
33	RECEPTACLES	20	1	12	3/4"	1.26	1.26		0.00			1	20	SPARE	34
35	GENERATOR POWER PANEL	30	2	10	3/4"	5.00	3.50	3.50	1.00	3/4"	12	1	20	CONTROLS POWER	36
37									1.00	3/4"	12	1	20	EXTERIOR LIGHTING	38
39	INTERIOR LIGHTING	20	1	12	3/4"	0.50	0.50							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															48
49							0.00							SPACE	50
51	SPACE														52
53															54
55							0.00		0.00	3/4"	6	3	60	SPD BREAKER	56
57	SPACE														58
59							61.45	58.51	60.25						60

LOAD TYPE	LOAD (KVA)	SUBLOADS (KVA)												TOTAL (KVA)	DEM FAC	DEM LD	NOTES		
UPS	91.00	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	91.00	1.00	91.00	
HVAC-101	28.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.40	1.00	28.40	
HVAC-102	18.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.95	1.00	18.95	
HVAC-103	18.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.95	1.00	18.95	
HVAC-104(REDUNDANT)	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	
COND-101	4.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.32	1.00	4.32	
COND-102	4.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.32	1.00	4.32	
COND-103	4.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.32	1.00	4.32	
COND-104(REDUNDANT)	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	1.00	0.00	
ERV & DAMPER SYSTEM	0.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.60	1.00	0.60	
RECEPTACLES	1.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.26	1.00	1.26	
GENERATOR POWER PANEL	5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00	1.00	5.00	
INTERIOR LIGHTING	0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50	1.00	0.50	
FIRE SUPPRESSION	0.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.60	1.00	0.60	
EXTERIOR LIGHTING	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	1.00	1.00	
CONTROLS POWER	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	1.00	1.00	
SPARE	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00		0.00	
SPARE	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00		0.00	
																180.22		180.22	TOTAL KVA
25 % OF Largest Motor Load	7.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.10	1.00	7.10	
25 % OF UPS Continuous Load plus Battery Charging	34.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.95	1.00	34.95	
25 % OF Continuous Loads	2.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	1.00	2.03	
																224.30		224.30	SUM TOTAL KVA(125% CONTINUOUS LOAD+ 100% NON CONTINUOUS LOAD+100% MOTOR LOADS+ 25% LARGEST MOTOR LOAD)
																622.58		622.58	TOTAL AMPS

NOTES:
DEMAND FACTOR IN ACCORANCE WITH NEC.

3-WIRE FEEDER SIZING SCHEDULE

SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDUIT
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-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 SUBSCRIPT '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-WIRE FEEDER SIZING SCHEDULE

SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDUIT
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 SUBSCRIPT '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.



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PROJECT INFORMATION:
90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-7

KEYPLAN:

REV.	DATE	DESCRIPTION
0	03/26/19	CONCEPTUAL DRAWINGS
1		
2		

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CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
ELECTRICAL SCHEDULES CONFIGURATION-7

DATE: 06/05/18

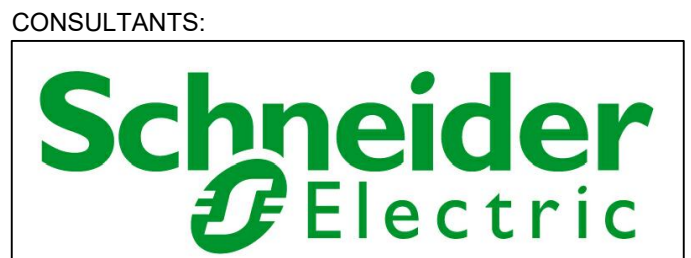
DRAWING NUMBER:
E600

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SYSTEM LOAD CALCULATION		
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

DISTRIBUTION PANELBOARD 'MBP-300' SCHEDULE																	
VOLTAGE	PH	WIRE	MCB (A)	MLO (A)	AIC	MOUNTING	LOCATION	PANEL CATALOG NUMBER									
120/ 208	3	4	600		65,000	SURFACE	MODULE										
CKT #	ITEM SERVED	CKT. TRIP	BRK P	WIRE SIZE	COND. SIZE	LOAD (KVA)	PHASE	LOAD (KVA)	COND. SIZE	WIRE SIZE	CKT. P	BRK TRIP	ITEM SERVED	CKT #			
							A B C										
1	RACK#1	30	3	10		8.18	5.45						RACK#7	2			
3							5.45	5.45						4			
5							5.45	5.45						6			
7	RACK#2	30	3	10		8.18	5.45						RACK#8	8			
9							5.45	5.45						10			
11							5.45	5.45						12			
13	RACK#3	30	3	10		8.18	5.45						RACK#9	14			
15							5.45	5.45						16			
17							5.45	5.45						18			
19	RACK#4	30	3	10		8.18	5.45						RACK#10	20			
21							5.45	5.45						22			
23							5.45	5.45						24			
25	RACK#5	30	3	10		8.18	5.45						RACK#11	26			
27							5.45	5.45						28			
29							5.45	5.45						30			
31	RACK#6	30	3	10		8.18	2.73						SPACE	32			
33							2.73							34			
35							2.73							36			
37	SPACE						0.00						SPACE	38			
39							0.00							40			
41							0.00							42			
43	SPACE						0.00						SPACE	44			
45							0.00							46			
47							0.00							48			
49	SPACE						0.00						SPACE	50			
51							0.00							52			
53							0.00							54			
55	SPACE						0.00						SPACE	56			
57							0.00							58			
59							0.00							60			
61	SPACE						0.00						SPACE	62			
63							0.00							64			
65							0.00							66			
67	CP-100	15	1	12		1.00	1.00						SPACE	68			
69	SPARE	15	1			0.00								70			
71	SPARE	15	1			0.00								72			
											30.99	29.99	29.99				
NOTES:											90.98	TOTAL KVA					
DEMAND FACTOR IN ACCORANCE WITH NEC.											252.54	TOTAL AMPS					
RACKS HAVE (N) DISTRIBUTION. OPTIONAL UPGRADE TO (2N) DISTRIBUTION SHALL BE AVAILABLE ON REQUEST.																	

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



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SHEET TITLE:
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DATE: 06/05/18

DRAWING NUMBER:
E601