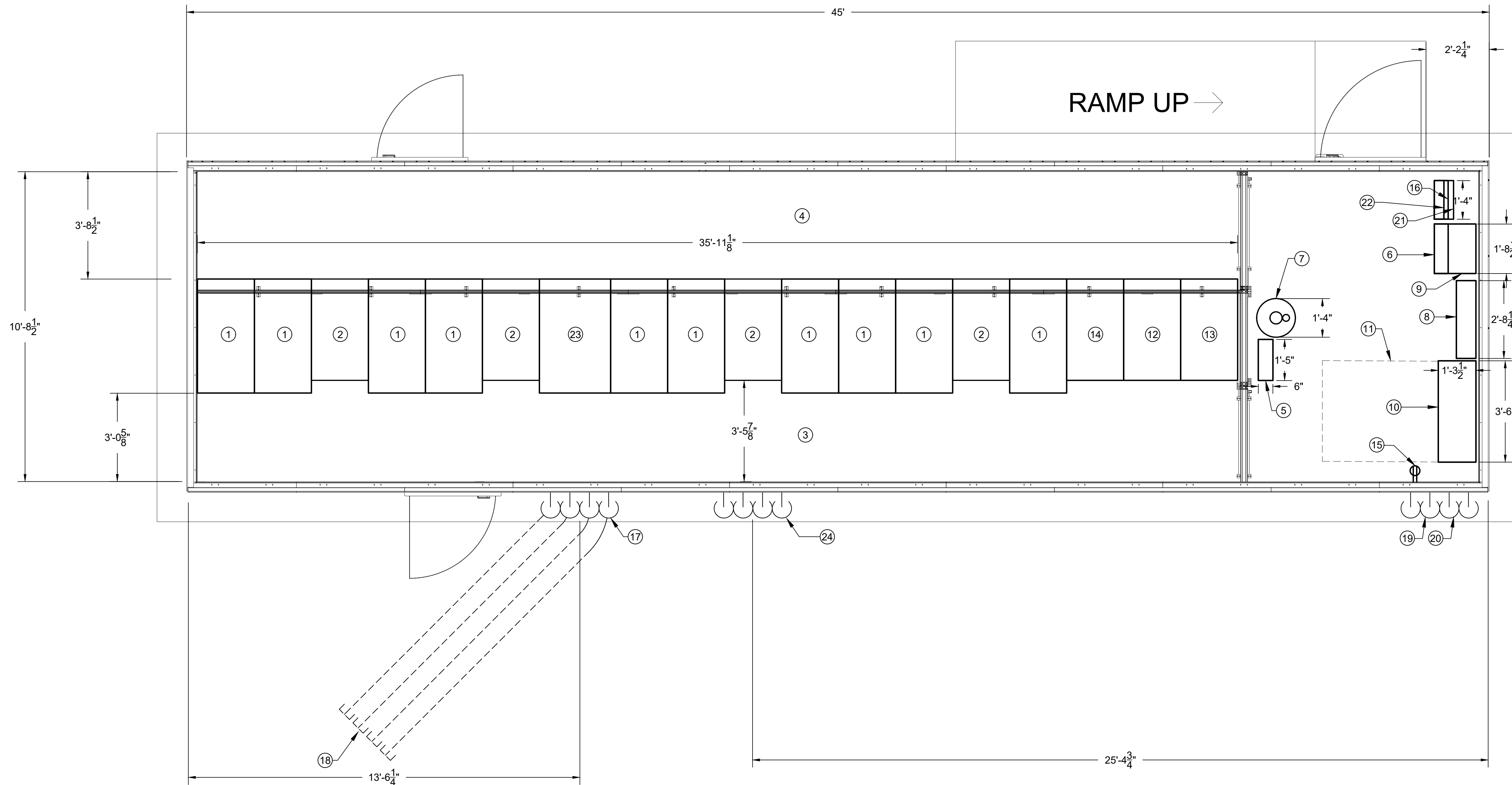


PREFAB CONFIGURATION-4

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	480	SYMMETRA PX100	ASCO-300	400	ACRD601/601P ACCD75231	4	4	AR3300/ AR3350	11	8.18	72	4	2	6.5	AP8865



GENERAL NOTES:

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

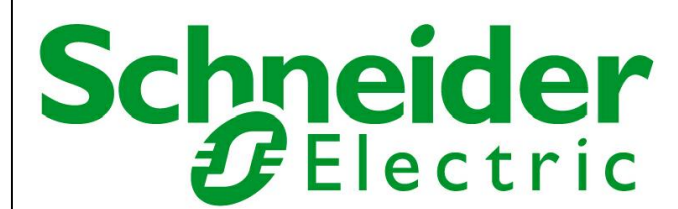
PLAN NOTES:

- | | | | |
|--|--|--|---|
| ① IT RACK. | ⑦ FIRE SUPPRESSION CANISTER. | ⑫ PX100 UPS MODULE. | ⑰ 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 AS REQUIRED. |
| ② DX600 IN-ROW COOLING UNIT. | ⑧ 480V MAIN(I-LINE/NF) DISTRIBUTION PANEL(MDP-100). | ⑬ PX100 UPS BATTERY CABINET. | ⑱ PROVIDE TWO(2) 2-1/2" CONCRETE ENCASED UNDERGROUND PVC SCH-80 CONDUITS FOR POWER FROM UTILITY. |
| ③ HOT AISLE. | ⑨ 480-208/120V STEP DOWN TRANSFORMER(TRF-2). | ⑭ PX100 UPS POWER DISTRIBUTION CABINET. | ⑳ PROVIDE TWO(2) 2-1/2" AND TWO(2) 3/4" CONCRETE ENCASED UNDERGROUND PVC SCH-80 CONDUITS FOR POWER AND CONTROLS FROM GENERATOR. |
| ④ COLD AISLE. | ⑩ ASCO-300 MODEL(480V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION(ATS-MDP-100). | ⑮ 120V RECEPTACLE(TYPICAL). | ㉑ CP-100 CONTROL PANEL. |
| ⑤ FIRE ALARM CONTROL PANEL. INSTALLATION SHALL BE AS PER NFPA 72 REQUIREMENTS. | ⑪ REQUIRED CLEARANCE(TYPICAL). | ⑯ GENERATOR ANNUNCIATOR PANEL(OPTIONAL). | ㉒ ACCESS CONTROL PANEL(OPTIONAL). |
| ⑥ 208/120V DISTRIBUTION PANEL(PDB-200). | | | ㉓ NETWORKING IT RACK. |
| | | | ⑲ CONDUITS AND PIPES FOR COOLING CONNECTIONS OF 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 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. |

ELECTRICAL PREFAB MODULE DETAILS CONFIGURATION-4

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

CONSULTANTS:



IT MISSION CRITICAL SERVICES, INC.
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SEAL:

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PROJECT INFORMATION:

90KW DATA CENTER
REFERENCE DESIGN
PREFAB CONFIGURATION-4

KEYPLAN:

REV.	DATE	DESCRIPTION
0	05/2/2019	CONCEPTUAL DRAWINGS

DRAWN BY: GR

CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

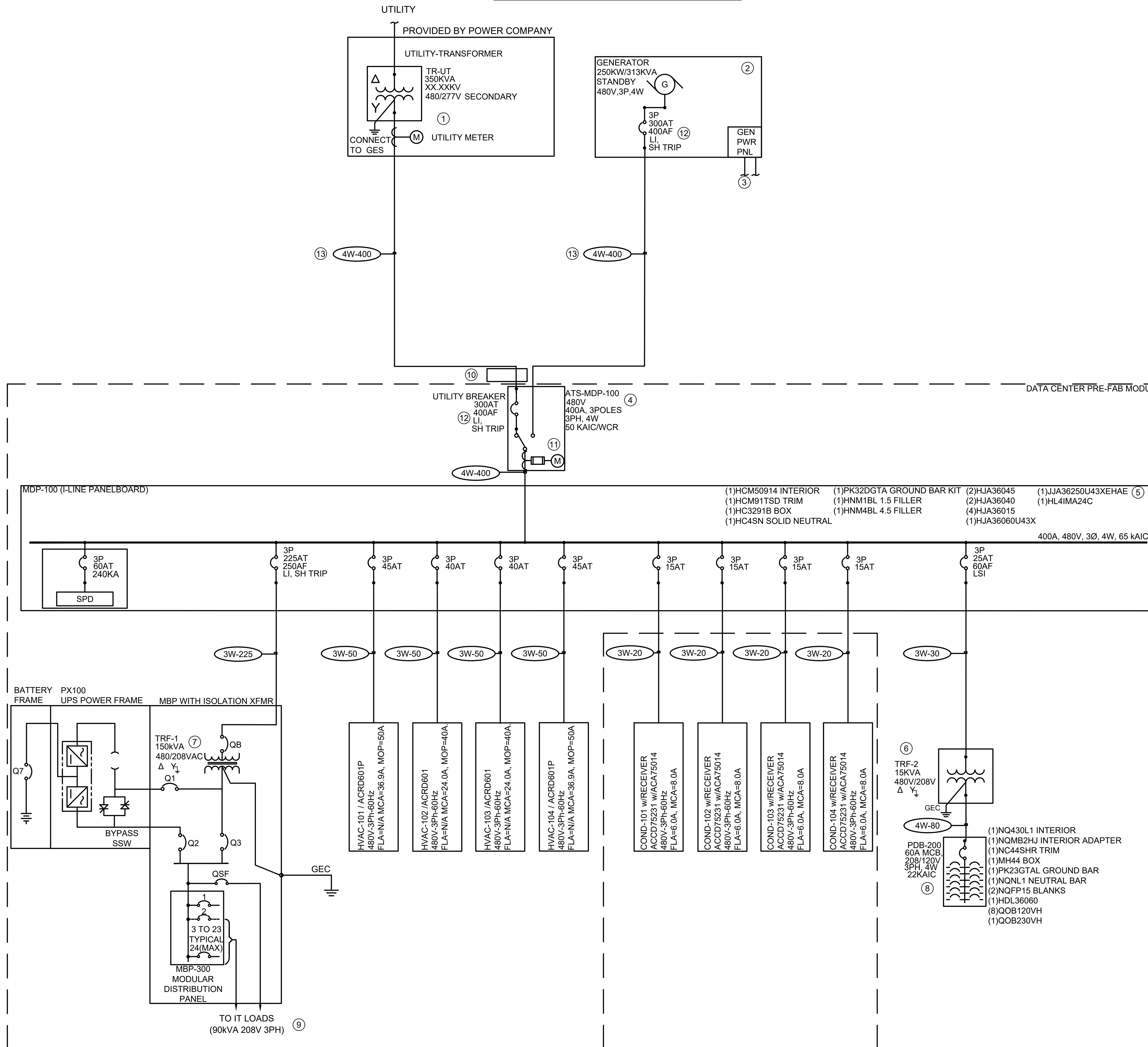
SHEET TITLE:
**ELECTRICAL
PREFAB MODULE DETAILS
CONFIGURATION-4**

DATE: 05/2/2019

DRAWING NUMBER:

E102

ELECTRICAL ONE LINE DIAGRAM:



GENERAL NOTES:

- SEE DRAWING E001 FOR ABBREVIATIONS AND SYMBOLS.
- SEE DRAWING E002 AND E003 FOR ELECTRICAL SPECIFICATIONS.
- SEE DRAWING 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 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 RUN TWO PHASE WIRES, A NEUTRAL WIRE AND 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 ASCO-300 MODEL(480V) SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE DELAYED TRANSITION.
- ⑤ 400AMP I-LINE PANELBOARD.
- ⑥ 15KVA TRANSFORMER MODEL EX15T3H.
- ⑦ 150KVA TRANSFORMER.
- ⑧ 100AMP NQ PANEL.
- ⑨ SEE PANEL MBP-300 SCHEDULE ON DRAWING E601 FOR DETAILS.
- ⑩ OPTIONAL 400A SERVICE ENTRANCE RATED DISCONNECT SWITCH (PROVIDED BY OTHERS).
- ⑪ ASCO 5210 POWER METER(OPTIONAL).
- ⑫ CIRCUIT BREAKER WILL BE EQUIPPED WITH A MICROLOGIC 5.3E LI (OR LSI) ELECTRONIC TRIP UNIT AND A SHUNT TRIP UNIT. SHUNT TRIPS ARE TO BE WIRED TO EPO PANEL.
- ⑬ CONDUCTORS FROM UTILITY AND GENERATOR SHOWN AS PER WIRE SCHEDULE SHALL BE RUN IN 2-1/2" PVC SCH-80 CONDUITS.



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PROJECT INFORMATION:
90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-4

KEYPLAN:

REV.	DATE	DESCRIPTION
0	05/2/2019	CONCEPTUAL DRAWINGS

DRAWN BY: GR

CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

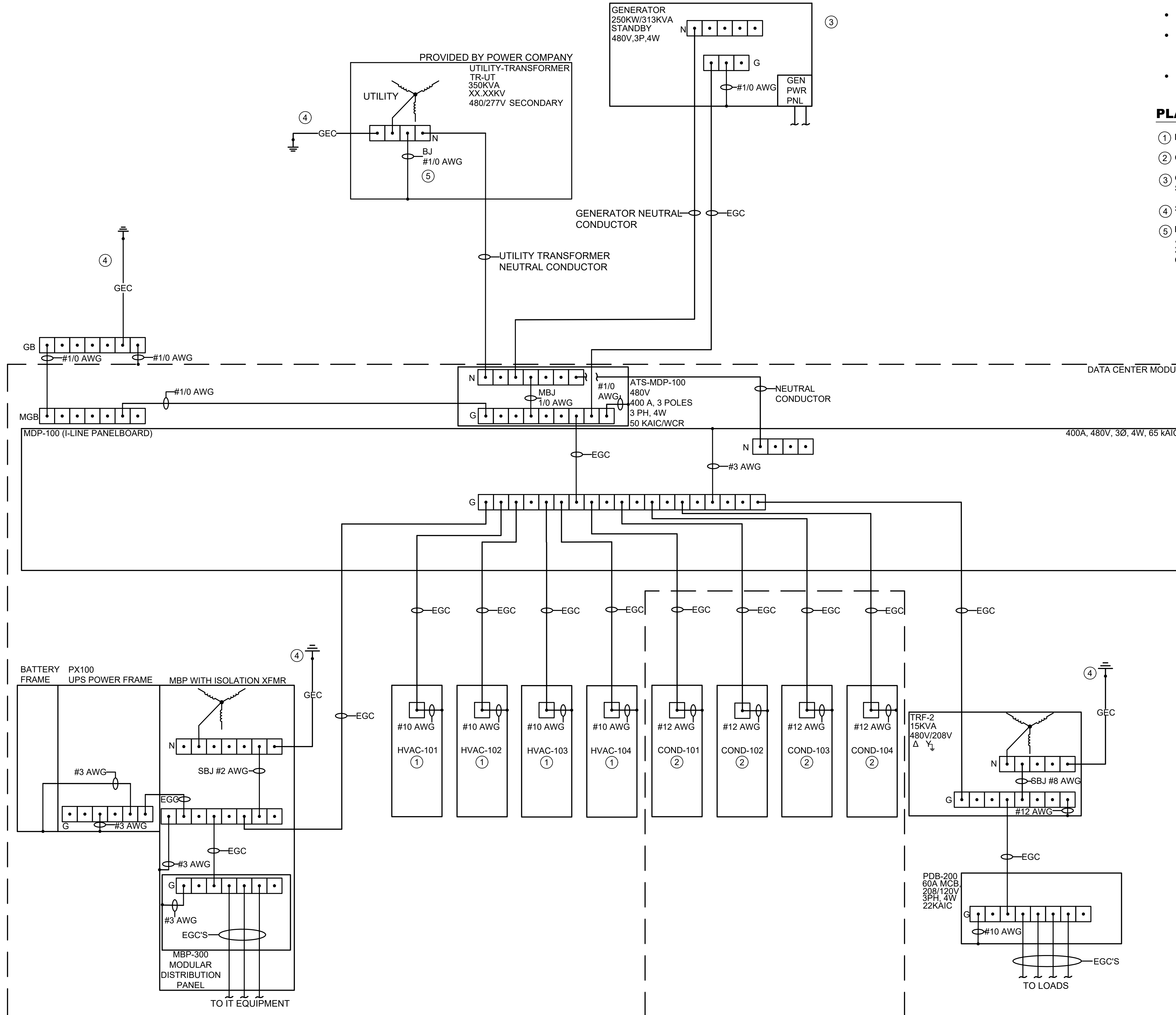
DRAWING SCALE: NONE

SHEET TITLE:
ELECTRICAL ONE LINE DIAGRAM CONFIGURATION-4

DATE: 05/2/2019

DRAWING NUMBER:
E400

ELECTRICAL GROUNDING DIAGRAM:



GENERAL NOTES:

- SEE DRAWING E001 FOR ABBREVIATIONS AND SYMBOLS.
- SEE DRAWING E002 AND E003 FOR ELECTRICAL SPECIFICATIONS.
- SEE DRAWING E400 FOR ELECTRICAL ONE LINE DIAGRAM.
- 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.
- 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 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 APPLICABLE 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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PROJECT INFORMATION:
90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-4

KEYPLAN:

REV.	DATE	DESCRIPTION
0	05/2/2019	CONCEPTUAL DRAWINGS

DRAWN BY: GR

CHECKED BY: ET

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
ELECTRICAL GROUNDING DIAGRAM CONFIGURATION-4

DATE: 05/2/2019

DRAWING NUMBER:

E401

DISTRIBUTION PANELBOARD 'MDP-100' SCHEDULE																		
VOLTAGE	PH	WIRE	MCB (A)	MLO (A)	AIC	MOUNTING SURFACE	LOCATION MODULE	PANEL CATALOG NUMBER :										
277 / 480	3	4		400	65,000													
CKT #	ITEM SERVED	CIRCUIT TRIP	BRKR P	WIRE SIZE	COND. SIZE	LOAD (KVA)	PHASE			LOAD (KVA)	COND. SIZE	WIRE SIZE	CIRCUIT BRKR P	TRIP	ITEM SERVED	CKT #		
							A	B	C									
1	UPS	225	3	4/0	2"	91.00	33.65			9.96	3/4"	10	3	25	TRF-2	2		
3	HVAC-101	45	3	8	3/4"	30.68	12.44			6.65	3/4"	12	3	15	COND-101	4		
5	HVAC-102	40	3	8	3/4"	24.94	10.53			6.65	3/4"	12	3	15	COND-102	6		
7	HVAC-103	40	3	8	3/4"	24.94	10.53			6.65	3/4"	12	3	15	COND-103	8		
9	HVAC-104(REDUNDANT)	45	3	8	3/4"	0.00	0.00			0.00	3/4"	12	3	15	COND-104(REDUNDANT)	10		
11	SPACE						0.00								SPACE	12		
13	SPACE						0.00								SPACE	14		
15	SPACE						0.00			0.00		6	3	60	SPD BREAKER	16		
							67.16	67.16	67.16									
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	91.00	1.00	91.00	
TRF-2	9.96	-	-	-	-	-	-	-	-	-	-	-	-	-	9.96	1.00	9.96	
HVAC-101	30.68	-	-	-	-	-	-	-	-	-	-	-	-	-	30.68	1.00	30.68	
HVAC-102	24.94	-	-	-	-	-	-	-	-	-	-	-	-	-	24.94	1.00	24.94	
HVAC-103	24.94	-	-	-	-	-	-	-	-	-	-	-	-	-	24.94	1.00	24.94	
HVAC-104(REDUNDANT)	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	1.00	0.00	
COND-101	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	6.65	1.00	6.65	
COND-102	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	6.65	1.00	6.65	
COND-103	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	6.65	1.00	6.65	
COND-104(REDUNDANT)	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	1.00	0.00	
												201.47		201.47	TOTAL KVA			
25 % OF Largest Motor Load	7.67	-	-	-	-	-	-	-	-	-	-	-	-	-	7.67	1.00	7.67	
25 % OF UPS Continuous Load plus Battery Charging	34.95	-	-	-	-	-	-	-	-	-	-	-	-	-	34.95	1.00	34.95	
25 % OF TRF-2's Continuous Load	2.03	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	1.00	2.03	
												246.12		246.12	SUM TOTAL KVA(125% CONTINUOUS LOAD+ 100% NON CONTINUOUS LOAD+100% MOTOR LOADS+ 25% LARGEST MOTOR LOAD)			
												296.03		296.03	TOTAL AMPS			

DISTRIBUTION PANELBOARD 'PDB-200' SCHEDULE																		
VOLTAGE	PH	WIRE	MCB (A)	MLO (A)	AIC	MOUNTING SURFACE	LOCATION MODULE	PANEL CATALOG NUMBER : NQ430L2										
120/ 208	3	4	60	22,000														
CKT #	ITEM SERVED	CIRCUIT TRIP	BRKR P	WIRE SIZE	COND. SIZE	LOAD (KVA)	PHASE			LOAD (KVA)	COND. SIZE	WIRE SIZE	CIRCUIT BRKR P	TRIP	ITEM SERVED	CKT #		
							A	B	C									
1	ERV & DAMPER SYSTEM	20	1	12	3/4"	0.60	1.20			0.60	3/4"	12	1	20	FIRE SUPPRESSION	2		
3	RECEPTACLES	20	1	12	3/4"	1.26			2.26	1.00	3/4"	12	1	20	EXTERIOR LIGHTING	4		
5	GENERATOR POWER PANEL	30	2	10	3/4"	5.00			3.50	1.00	3/4"	12	1	20	CONTROLS POWER	6		
7										0.50	3/4"	12	1	20	INTERIOR LIGHTING	8		
9	SPACE	20	1			0.00			0.00						SPACE	10		
11	SPACE														SPACE	12		
13	SPACE								0.00	0.00			1	20	SPACE	14		
15	SPACE														SPACE	16		
17	SPACE														SPACE	18		
19	SPACE														SPACE	20		
21	SPACE														SPACE	22		
23	SPACE														SPACE	24		
25	SPACE														SPACE	26		
27	SPACE														SPACE	28		
29	SPACE														SPACE	30		
							1.20	5.26	3.50									
LOAD TYPE	LOAD (KVA)	SUBLOADS (KVA)										TOTAL (KVA)	DEM FAC	DEM LD	NOTES			
ERV & DAMPER SYSTEM	0.60	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	PNL	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	
EXTERIOR LIGHTING	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00	1.00	1.00	
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	
SPACE	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	1.00	0.00	
SPACE	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	1.00	0.00	
												9.96		9.96	TOTAL KVA			
25% Of Continuous Loads	2.03	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	1.00	2.03	
												11.99		11.99	SUM TOTAL KVA(125% CONTINUOUS LOAD+ 100% NON CONTINUOUS LOAD)			
												33.27		33.27	TOTAL AMPS			

NOTES:
DEMAND FACTOR IN ACCORDANCE 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-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 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-4

KEYPLAN:

SYSTEM LOAD CALCULATION		
ITEM	LOAD	UNIT
CRITICAL LOAD	91.000	KVA
HVAC 101	30.678	KVA
COND 101	6.651	KVA
HVAC 102	24.940	KVA
COND 102	6.651	KVA
HVAC 103	24.940	KVA
COND 103	6.651	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
INTERIOR LIGHTING	0.500	KVA
GENERATOR POWER PANEL	5.000	KVA
CONTROLS POWER	1.000	KVA
LOBBY VENTILATION	0.12	KVA
EXTERIOR LIGHTING	1	KVA
TOTAL KVA	201.591	KVA

DISTRIBUTION PANELBOARD 'MBP-300' SCHEDULE																		
VOLTAGE	PH	WIRE	MCB (A)		MLO (A)	AIC	MOUNTING	LOCATION	PANEL CATALOG NUMBER									
120/ 208	3	4	400			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			8.18		10	3	30	RACK#7	2		
3								5.45									4	
5									5.45									6
7	RACK#2	30	3	10		8.18	5.45			8.18		10	3	30	RACK#8	8		
9									5.45									10
11																5.45		
13	RACK#3	30	3	10		8.18	5.45			8.18		10	3	30	RACK#9	14		
15									5.45									16
17																5.45		
19	RACK#4	30	3	10		8.18	5.45			8.18		10	3	30	RACK#10	20		
21									5.45									22
23																5.45		
25	RACK#5	30	3	10		8.18	5.45			8.18		10	3	30	RACK#11	26		
27									5.45									28
29																5.45		
31	RACK#6	30	3	10		8.18	2.73								SPACE	32		
33									2.73									34
35																2.73		
37	SPACE						0.00								SPACE	38		
39									0.00									40
41																0.00		
43	SPACE						0.00								SPACE	44		
45									0.00									46
47																0.00		
49	SPACE						0.00								SPACE	50		
51									0.00									52
53																0.00		
55	SPACE						0.00								SPACE	56		
57									0.00									58
59																0.00		
61	SPACE						0.00								SPACE	62		
63									0.00									64
65																0.00		
67	CP-100	15	1	12		1.00	1.00			0.00			1	15	SPARE	68		
69	SPARE	15	1			0.00											70	
71																	72	
							30.99	29.99	29.99									
NOTES:											90.98	TOTAL KVA						
DEMAND FACTOR IN ACCORANCE WITH NEC.											252.54	TOTAL AMPS						
RACKS SHALL 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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PROJECT INFORMATION:
90KW DATA CENTER REFERENCE DESIGN PREFAB CONFIGURATION-4

KEYPLAN:

REV.	DATE	DESCRIPTION
0	05/2/2019	CONCEPTUAL DRAWINGS

DRAWN BY: GR

CHECKED BY: MN

PROJECT NUMBER: DMP-XXXXXX

DRAWING SCALE: NONE

SHEET TITLE:
ELECTRICAL SCHEDULES CONFIGURATION-4

DATE: 05/2/2019

DRAWING NUMBER:
E601