

**NOTES:**

- ALL FUTURE EV CHARGERS SHALL BE DESIGNED BY OTHERS UNDER SEPARATE PERMIT(S).
- DESIGN ASSUMES NO ADDITIONAL LOADS WILL BE ADDED
- ALL OCPD TO HAVE A MINIMUM 75 DEGREE TERMINATION LUG RATING

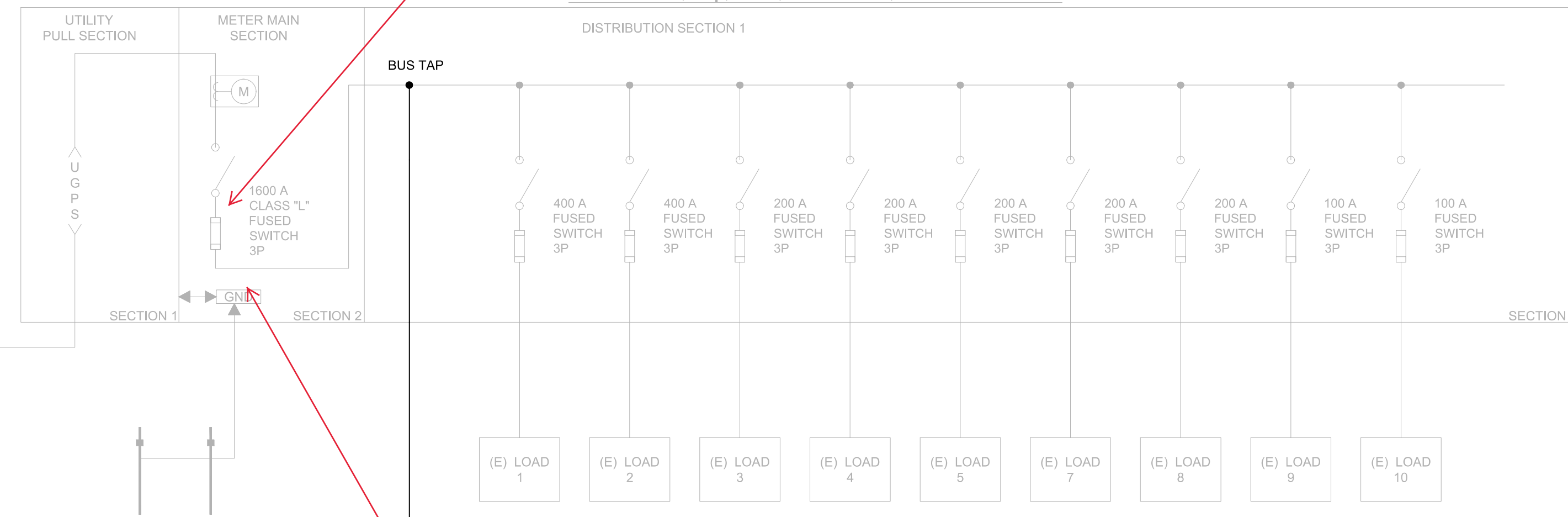
**GENERAL NOTES:**

- LOCKABLE BREAKERS FOR ALL EV DISTRIBUTION BREAKERS.
- "EMERGENCY SHUTDOWN - ELECTRIC VEHICLE CHARGING STATION" SIGN MUST BE INSTALLED ON "EV-L1".
- EVSE L2 EV CHARGERS ARE 16.6 KW, 80A, AT 208V. EVSE INFORMATION ON DETAIL 1 PAGE E-4
- WIRING AT THE CONDUIT AND CONDUCTOR SCHEDULE TO BE COPPER (CU).
- BREAKERS OF 1200A OR GREATER TO BE COMPLIANT WITH NEC 213.10 (GFI).
- "MSWB MSB" AND "EV-L1" SHALL HAVE PLACARD TO SHOW LOCATION OF SWITCH BOARD AND SERVICE DISCONNECT.
- EXPOSED CONDUITS SHALL BE RMC BELOW 10' AND CAN BE EMT ABOVE 10'. THREADED COUPLINGS ON RGS AND STEEL. COMPRESSION ON EMT.
- SURFACE MOUNTED BOXES ARE FD OR FS ONLY. SHEET METAL CANNOT BE EXPOSED.
- JUNCTION BOXES: RATED FOR APPLICATION. GALVANIZED STEEL WITH CONDUIT KNOCKOUTS AND THREADED HOLES FOR MOUNTING WIRING DEVICES. CONFORM TO NEMA 250.
- ARC FLASH LABELS TO BE PROVIDED ON "EV-L1" & "MSWB"
- ALL BRANCH CIRCUITS SUPPORTING AN EV CHARGER MUST HAVE OCPD CAPABLE OF LOCK OUT TAG OUT REQUIREMENTS. ALL OCPDS TO BE BOLT ON MOLDED CASE CIRCUIT BREAKERS.
- SIGNAGE REQUIRED ON EVSE DISTRIBUTION PANELS: "EV SERVICE LOADS ONLY"
- THREE PHASE CONDUCTOR IDENTIFICATION:
  - NUMBER 8 AWG AND SMALLER: UNIFORM COLORED JACKET. JACKET COLOR AS INDICATED ON 15.3.
  - NUMBER 6 AWG AND LARGER: TAPE APPLIED TO JACKET WITHIN 6 INCHES OF THE END OF EACH CONDUCTOR. TAPE COLOR AS INDICATED 15.3.
  - JACKET AND TAPE COLOR (CONDUCTORS OF 120/208 VOLT CIRCUITS):
    - PHASE A: BLACK.
    - PHASE B: RED.
    - PHASE C: BLUE.
    - NEUTRAL: WHITE.
    - GROUND: GREEN.
- CHARGING NUMBER AND PARKING NUMBER ON SHEET E-1.1
- EXPANSION COUPLINGS REQUIRED ON ALL CONDUIT RUNS OVER THAN 150FT.

AVAILABLE SHORT CIRCUIT DUTY FROM CONED: 119.5KA

CURRENT LIMITING "L" FUSE, 1600A

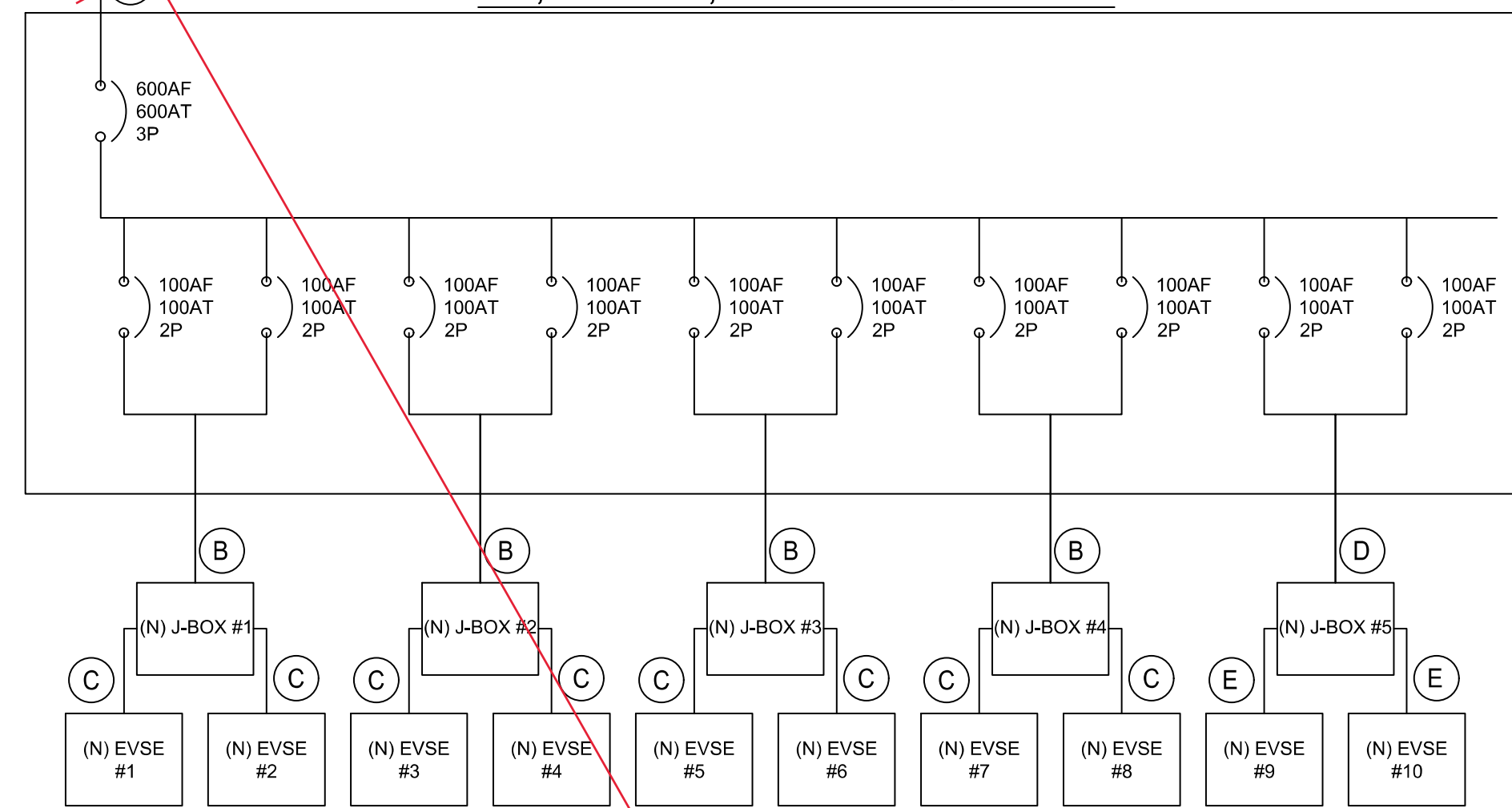
(E) MAIN SWITCHBOARD "MSWB": 1600A, 208/120V, 3φ, 4W, NEMA 1, SCCR 100KA



(E) UTILITY

AVAILABLE SHORT CIRCUIT DUTY 96KA

(N) DISTRIBUTION PANEL "EV-L1" 600A, 120/208V, 3φ, 4W, 100KAIC, NEMA 1 100% RATED

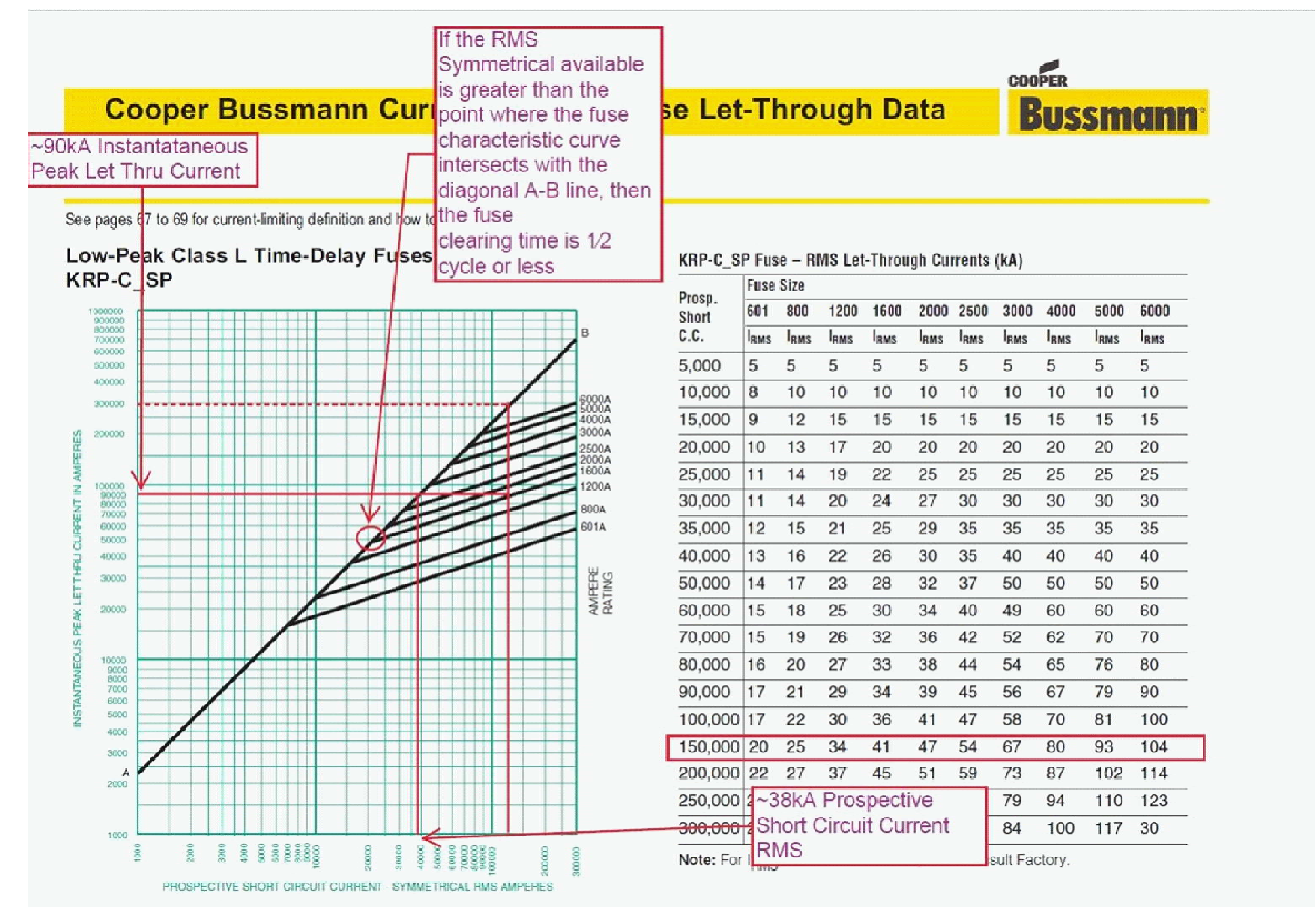


① SINGLE LINE DIAGRAM

PER THE NATIONAL ELECTRICAL CODE (NEC), ARTICLE 220.87, THE MAXIMUM DEMAND AT 125 PERCENT PLUS THE NEW LOAD CAN BE ADDED TO DETERMINE THE ADEQUACY OF THE EXISTING ELECTRICAL DISTRIBUTION SYSTEM TO SUPPORT THE SHORT-TERM PROGRAM LOADS.

LOAD SUMMARY OF SERVICE PANEL "MSWB"		
MAXIMUM DEMAND	88	KW
MAXIMUM DEMAND @ 125%:	110	KW
NEW LOAD @ 125%	209	KW
NEW AND MAX DEMAND TOTAL KW = 319 KW		
EXISTING SERVICE VOLTAGE	208	V
NEW 3-PHASE CURRENT DEMAND = 885.48 AMPS		

THE EXISTING [1600] AMP, 120/208VOLT, 3-PHASE, 4-WIRE ELECTRICAL DISTRIBUTION SYSTEM HAS ADEQUATE LOAD CAPACITY TO SUPPORT THE PROPOSED NEW EVSE LOADS.



(E) MSWB 1600A 208/120V																							
MOUNTING NEMA RATING	FLOOR	# OF PARALLEL FEEDERS																		VOLTS	120 / 208	MAIN BUS	1600A
FEED THRU	NQ	NEUTRAL (%)																		PHASE WIRE	3 / 4	A.I.C.	1600A / 100K
LOCATION	A	B	C	LTG	CONV	RECP	MISC	BKR	CIRC	CIRC	BKR	MISC	RECP	CONV	LTG	A	B	C	LOCATION				
EXISTING LOAD	29338								1	2													
EV-L1 SUB PANEL	58240	29338	29338						3	4													
TOTAL VA=	254414	AMPS=	706	TOTAL VA W/LCL=	318018	AMPS W/LCL=	883																
HIGH PHASE VA=	87578	AMPS=	730	HIGH PHASE VA W/LCL=	109473	AMPS W/LCL=	912																

(N) EV SUB PANEL "EV-L1" 100% RATED																							
MOUNTING NEMA RATING	WALL	# OF PARALLEL FEEDERS																		VOLTS	120 / 208	MAIN BUS	600A 100% RATED
FEED THRU	NQ	NEUTRAL (%)																		PHASE WIRE	3 / 4	A.I.C.	600A / 100K
LOCATION	A	B	C	LTG	CONV	RECP	MISC	BKR	CIRC	CIRC	BKR	MISC	RECP	CONV	LTG	A	B	C	LOCATION				
EVSE #1	8320								1	2						8320			EVSE #7				
SINGLE PORT	8320	8320							3	4						8320	8320		SINGLE PORT				
EVSE #2			8320						5	6									EVSE #8				
SINGLE PORT	8320		8320						7	8						8320			SINGLE PORT				
EVSE #3		8320							9	10						8320	8320		EVSE #9				
SINGLE PORT		8320	8320						11	12								8320	SINGLE PORT				
EVSE #4	8320								13	14						8320			EVSE #10				
SINGLE PORT	8320	8320							15	16						8320	8320		SINGLE PORT				
EVSE #5			8320						17	18													
SINGLE PORT	8320		8320						19	20													
EVSE #6	8320								21	22													
SINGLE PORT	8320	8320							23	24													
TOTAL VA=	166400	AMPS=	462																				
HIGH PHASE VA=	58240	AMPS=	485																				

② PANEL SCHEDULE

CONDUIT & WIRE SCHEDULE											
IDENTIFIER	FROM	TO	VOLTAGE (VAC - PHASE)	NET CURRENT (AMPS)	UPSTREAM OCPD (AMPS)	PARALLEL RUNS	CONDUIT SIZE/TYPE	WIRE CONTENTS	ONE WAY DISTANCE (MAX)	%VDROP	REMARKS
A	(E) 208/120V MAIN SWITCHGEAR	(N) SUB PANEL "EV-L1" (120/208V SECTION)	208V-3φ	485	1600 (BUS TAP AFTER MAIN)	2	3" SCH 40 RMC	(4) #400 MCM CU THWN-2 (1)#1 AWG CU EGC	25	.21	PARALLEL RUNS (4 X #400 AND 1 X #1 AWG CU PER RUN)
B	(N) SUB PANEL "EV-L1" (120/208V SECTION)	(N) J-BOX #1 - #4	208V-1φ	80	100		1-1/4" C SCH 40 RMC	(4) #2 AWG CU THWN-2 (1) #8 AWG CU EGC	190	2.48	
C	(N) J-BOX #1 - #4	(N) EVSE #1 - #8					1" C SCH 40 RMC	(2) #2 AWG CU THWN-2 (1) #8 AWG CU EGC			
D	(N) SUB PANEL "EV-L1" (120/208V SECTION)	(N) J-BOX #5					1-1/2" C SCH 40 RMC	(4) #1 AWG CU THWN-2 (1) #6 AWG CU EGC			
E	(N) J-BOX #5	(N) EVSE #9 - #10					1-1/4" C SCH 40 RMC	(2) #1 AWG CU THWN-2 (1) #6 AWG CU EGC	204	2.42	

③ CONDUIT AND WIRE SCHEDULE