FIXTURE SCHEDULE

LETTER	FIXTURE				LAMP		VOLTS	REMARKS
	MANUFACTURER	CAT. NO.	LOCATION	TYPE	TYPE	NO.		
F1	LITHONIA	LB4332GEB	CEILING	SURFACE	FO32SP35	4	120	4 LAMP WRAP
F2	LITHONIA	2SPG232A12125GEB	CEILING	LAY-IN	FO32SP35	2	120	ACR LENS
F3	LITHONIA	2SPG332A12125GEB	CEILING	LAY-IN	FO32SP35	3	120	2 BALLASTS FOR BI LEVEL SWITCHING ACR LENS
F4	LITHONIA	2SPG432A12125GEB	CEILING	LAY-IN	FO32SP35	4	120	ACR LENS
F5	LITHONIA	SPG232A12125GEB	CEILING	LAY-IN	FO32SP35	2	120	1' X 4'
F6	LITHONIA	WS232A12125GEB	WALL	SURFACE	FO32SP35	2	120	4' WALL BRACKET
F7	LITHONIA	WS217A12125GEB	WALL	SURFACE	FO17SP35	2	120	2' PL WALL BRACKET
F8	LITHONIA	SM132GEB	UNIV	SURFACE	FO32SP35	1	120	4'- 1 LAMP STRIP
F9	LITHONIA	EJA432GEB	CEILING	PENDANT	FO32SP35	4	120	INDUSTRIAL
F10	PRESCOLITE	3654	SOFFIT	SURFACE	70WHPS	1	120	NOTE 2. HID SOFFIT
F11	LITHONIA	SM232GEB	UNIV.	SURFACE	FO32SP35	2	120	4' - 2 LAMP STRIP
F12	LEVITON	9725-C	UNIV.	SURFACE	100WA19	1	120	KEYLESS
1X	LITHONIA	LES1R ELN	UNIV.	SURFACE	LED	–	120	EXIT 1 FACE, BATTERY, BR AL
2X	LITHONIA	LES2R ELN	UNIV.	SURFACE	LED	–	120	EXIT 2 FACE, BATTERY, BR AL

NOTES: 1. ALL FLUORESCENT FIXTURES TO BE EQUIPED WITH ELECTRONIC BALLASTS
2. VERIFY FIXTURE WILL CLEAR DOOR SWING.

SCHEDULE OF CONTROL EQUIPMENT

ROOM NO.	ITEMS FURNISHED BY CONTR. (SEE SPECS)					ITEMS FURNISHED BY ELEC. CONTR.				AUXILIARY CONTROL EQUIP.				REMARKS
	MOTORS					STARTER				ELEC.CONTR.,MECH.CONTR., TEMP CONTROL CONTR.,OTHER				
	UNIT	HP	FLA	ø	VTS	MFG. NO. (GE)	SIZE	AUX CONT	ACCESS	ITEM	FURN	INST	CONN	
–	CP-1	1.5	–	3	208	CR308	1	2 NO 3 NC	SEE SPECS	CONTROLS	TC	TC	TC	
–	CP-2	3	–	3	208	CR308	0	2 NO 3 NC	SEE SPECS	CONTROLS	TC	TC	TC	
–	CP-3	3	–	3	208	CR308	1	2 NO 3 NC	SEE SPECS	CONTROLS	TC	TC	TC	
–	CP-4	3	–	3	208	CR308	1	2 NO 3 NC	SEE SPECS	CONTROLS	TC	TC	TC	
–	CHILLER	–	–	3	208	–	–	–	–	CONTROLS	TC	TC	TC	50 TON
–	AHU-1	1.5	–	3	208	CR308	0	2 NO 3 NC	SEE SPECS	CONTROLS	TC	TC	TC	(1)
–	UV	1/6	–	1	120	CR101	–	–	–	CONTROLS	TC	TC	TC	
–	EF-1	1/4	–	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	
–	EF-2	1/4	–	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	
–	EF-3	1/4	–	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	FLUSH MOUNT
–	EF-4	1/4	–	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	
–	EF-5	1/4	–	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	FLUSH MOUNT
–	EF-6	–	1.0A	1	120	CR101	–	–	HOA	CONTROLS	TC	TC	TC	

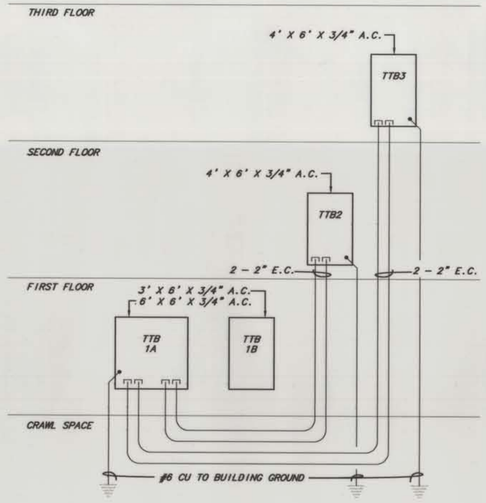
(1) VERIFY REQUIREMENTS WITH MECHANICAL AND T.C. CONTRACTORS.

DISCONNECT SCHEDULE

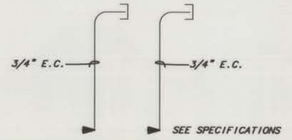
DISC CODE	MFG'R	MFG'R NUMBER	AMPS	NEMA TYPE	FUSED TYPE(BUSS)	SIZE	VOLTS	REMARKS
D1	–	–	200	12	LP	110	208	ELEVATOR

SINGLE LINE DIAGRAM WORK NOTES:

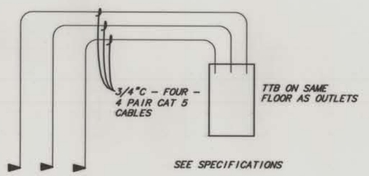
1. SECTIONALIZING CABINET USED AS LOOPING PEDESTAL. SEE SPEC.
2. BORE CIRCUIT UNDER DITCH FROM SECTIONALIZER BOX TO TRANSFORMER LOCATION. BORE TO MAINTAIN A MINIMUM OF 5'-0" CLEARANCE FROM ANY PORTION OF DITCH.
3. ALL MEDIUM VOLTAGE MATERIALS AND WIRING METHODS SHALL BE FOR A 15 KV CLASS SYSTEM. EXISTING SYSTEM IS 4.16 KV, BUT FUTURE PLANS INCLUDE UPGRADING TO 12.47 KV SYSTEM.
4. EXISTING MAIN PANEL IS 120/240V. 3ø-4W DELTA. REMOVE EXISTING BONDING AND GROUNDING. BOND AND GROUND NEW MDP. ALL SINGLE PHASE LOADS FED OUT OF EXISTING MAIN PANEL ARE SOURCED FROM A AND C PHASES. RECONNECT EXISTING BREAKERS IN EXISTING MAIN PANEL TO BALANCE LOADS ON ALL PHASES (NEW SYSTEM IS 120/208V). I.E. BALANCE BETWEEN A/B, B/C, C/A. RECONNECT IN EXISTING PANEL AS REQUIRED.
5. REMOVE OIL CIRCUIT BREAKER AND OIL FILLED TRANSFORMERS. PCB DISPOSAL TO BE PER EPA REQUIREMENTS.
6. TERMINATE AND GROUND CONCENTRIC NEUTRAL AT EACH END OR 15 KV CABLE RUN.
7. TERMINATE AS REQUIRED TO EXISTING 3ø-4W BUSS DUCT. MODIFY AND PROVIDE CONNECTION AS REQUIRED.
8. INSTALL LOAD-BREAK ELBOWS AND MODULES ON TRANSFORMER PRIMARY.
9. CONNECT CABLE TERMINATORS (WHICH FEED APSARUKE CIRCUIT) TO LOAD SIDE OF 5 KV OCB (CISIL HALL DISCONNECT). CONNECT IN LOCATION WHERE CABLES WHICH NOW FEED APSARUKE ARE TO BE REMOVED. MODIFY AND CONNECT AT REQUIRED. PROVIDE HARDWARE AND ACCESSORIES AS REQUIRED.
10. 15 KV FUSED SUBSURFACE SWITCH (FUSES TO BE FOR APPLICATION ON A 4.16 KV SYSTEM). SF6 TYPE, 200 AMP CONTINUOUS AND LOAD BREAK, TWO-WAY-1 SWITCHED. THREE PHASE 200 AMP DEEP WELL ELBOW CONNECTIONS. JOSLYN TYPE FX, 15.5 KV, CAT# SF06-21-15. FUSES TO SCREW INTO DEEP WELL INTERFACE. PROVIDE 6 (SIX) 60 AMP TYPE "E" FUSES NON-EXPULSION POWER (3 ARE SPARE). 200 AMP CLASS SWITCH, 200 AMPS CONTINUOUS - 200 AMP INTERRUPTING. DEAD FRONT - NONVENTING. ELBOW CONNECTED FUSES. PROVIDE OPTIONAL NEON BLOWN - FUSE INDICATOR. PROVIDE AND INSTALL 6 200 AMP CLASS LOAD BREAK ELBOWS ON CABLES IN/OUT OF SWITCH. PROVIDE TERMINATION KITS AS REQUIRED FOR CONCENTRIC NEUTRALS. ELBOWS TO BE COMPATIBLE WITH DEEP WELL/FUSE ASSEMBLY. INSTALL PER ALL NEC AND NESC REQUIREMENTS. PROVIDE HOT-STICK TOOL FOR FUSE REPLACEMENT.
11. ROUTE CIRCUIT OUT OF CISIL HALL VAULT TO AVOID ANY EXPOSED, ABOVE GRADE CONDUIT. CORE-DRILL OR PROVIDE PENETRATIONS AS REQUIRED OUT OF EXISTING VAULT.
12. SWEEP ELBOWS.



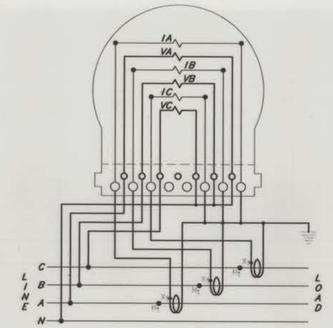
1 E7 BASE BID (TBB SCHEMATIC) NTS



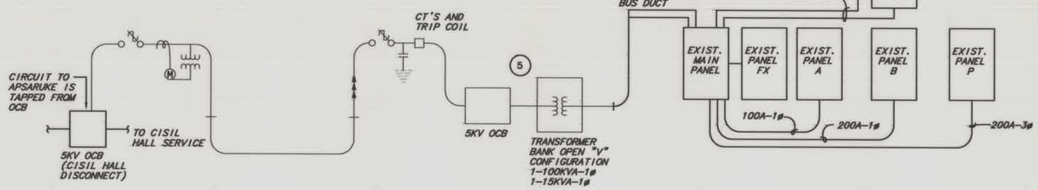
2 E7 BASE BID TELEPHONE OUTLET SCHEMATIC NTS



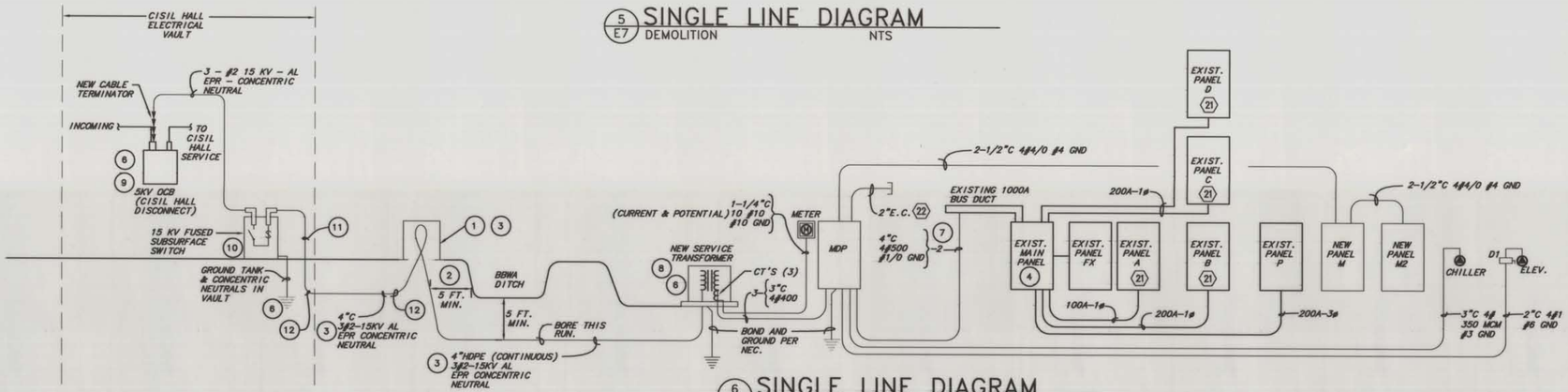
3 E7 ALTERNATE BID TELEPHONE OUTLET SCHEMATIC NTS



4 E7 KILOWATT HOUR METER 3-LINE SCHEMATIC DIAGRAM NTS



5 E7 SINGLE LINE DIAGRAM DEMOLITION NTS



6 E7 SINGLE LINE DIAGRAM NEW CONSTRUCTION NTS

AS BUILT DRAWINGS

DEMOLITION LEGEND:

LIGHT LINES = EXISTING TO REMAIN
DARK SOLID LINES = EXISTING TO BE REMOVED

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APSARUKE HALL
MSU-BILLINGS
BILLINGS, MONTANA

JOB NO. 9504
DRAWN BY BCR/TK
CHECKED SAR
DATE 12-1-95
REVISED 12-5-96

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