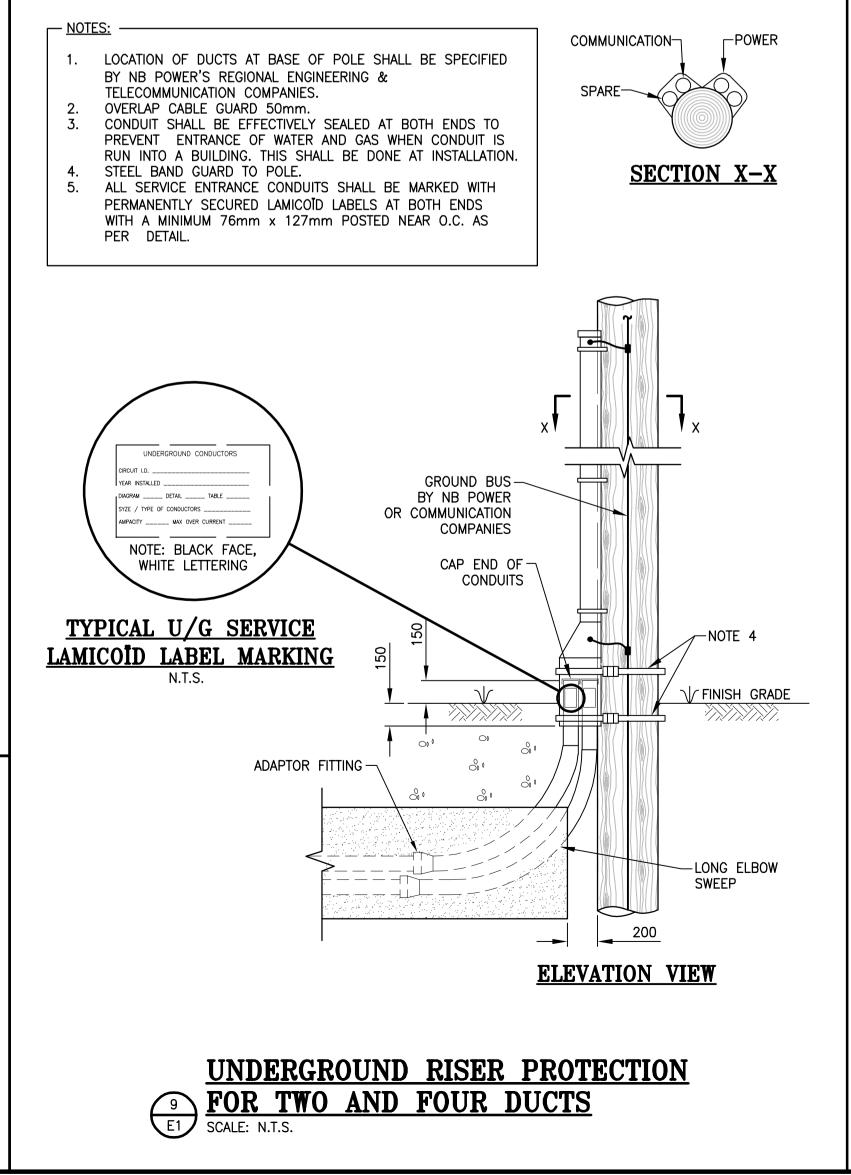


- P = POWER, 4C#750 MCM RW90-AL IN 103mm RIGID PVC CONDUIT.
- C = COMMUNICATION, 50 PAIRS CAT#3, 25 PAIRS CAT#3 AND FIBER OPTIC CABLE IN 103mm RIGID PVC CONDUIT.
- S = SPARE, 103mm RIGID PVC CONDUIT.
- 6mm NYLON ROPE OR EQUIVALENT SHALL BE INSTALLED AND SECURED IN EACH CONDUIT.
- ALL DUCTS SHALL BE PROPERLY IDENTIFIED AT BOTH ENDS WITH LAMICOÏD PLATES. BACKFILL PARTICLES SHALL BE LESS THAN 38mm AND BACKFILL SHALL BE COMPACTED TO AT
- LEAST 95% MAXIMUM DENSITY TO ASTM D698.
- ELECTRICAL WARNING DETECTABLE MARKER TAPE SHALL BE AS PER PANDUIT #HTDU 75mm WIDE. WATERTIGHT SEAL CONDUIT BUILDING PENETRATION AND INSTALL CONDUIT SLOPPED DOWNWARD FROM BUILDING.

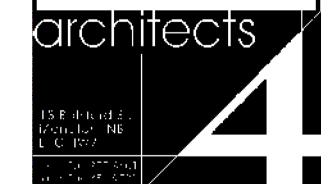




A ISSUED FOR COORDINATION 2021/12/ REVISION A DETAIL NUMBER **B** REFERENCE DWG NO. C DETAIL DWG NO.







TCFSA Administration Building Addition

Tobique First Nation, NB

- ELECTRICAL -

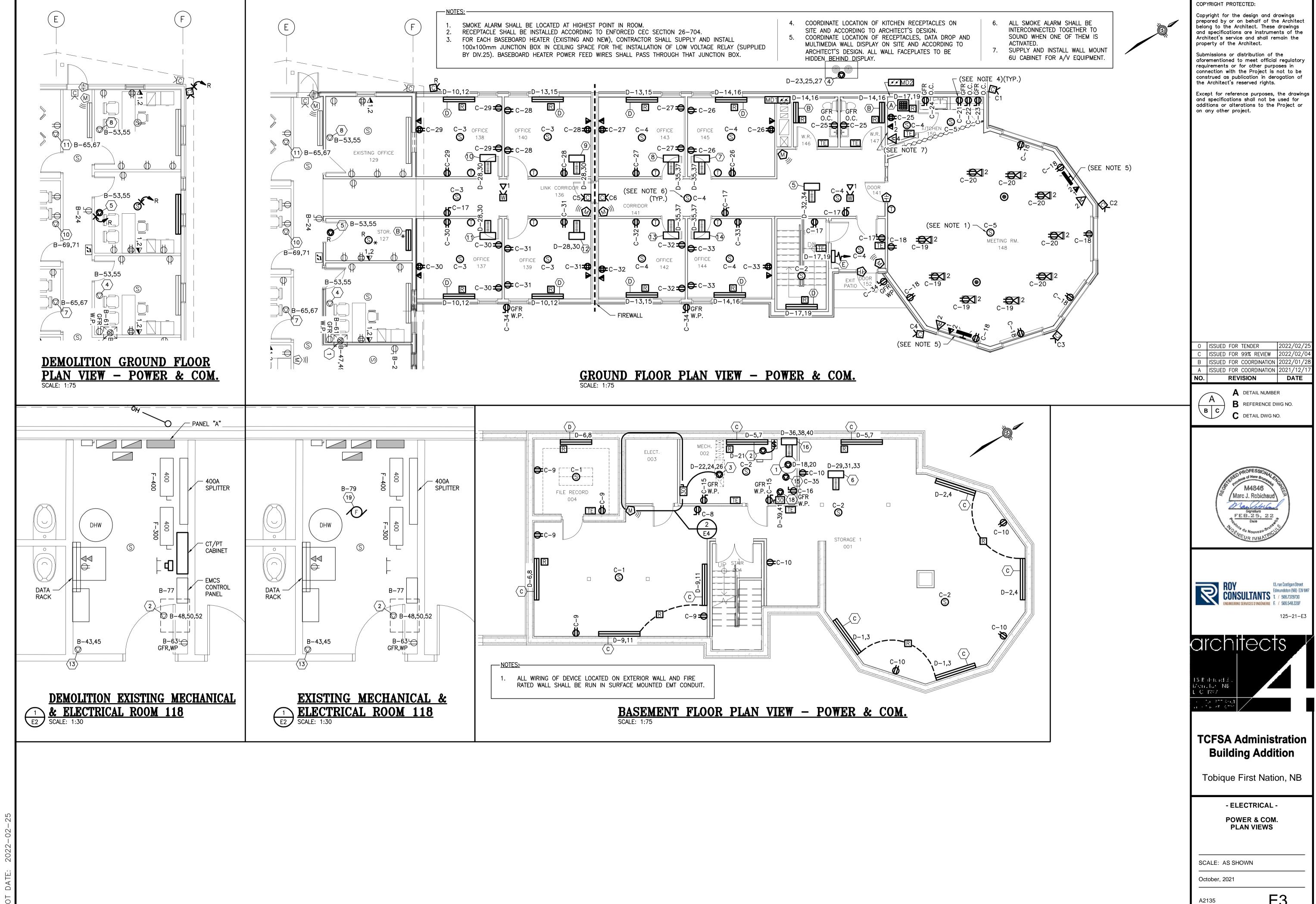
LIGHTING PLAN VIEWS & DETAILS

SCALE: AS SHOWN

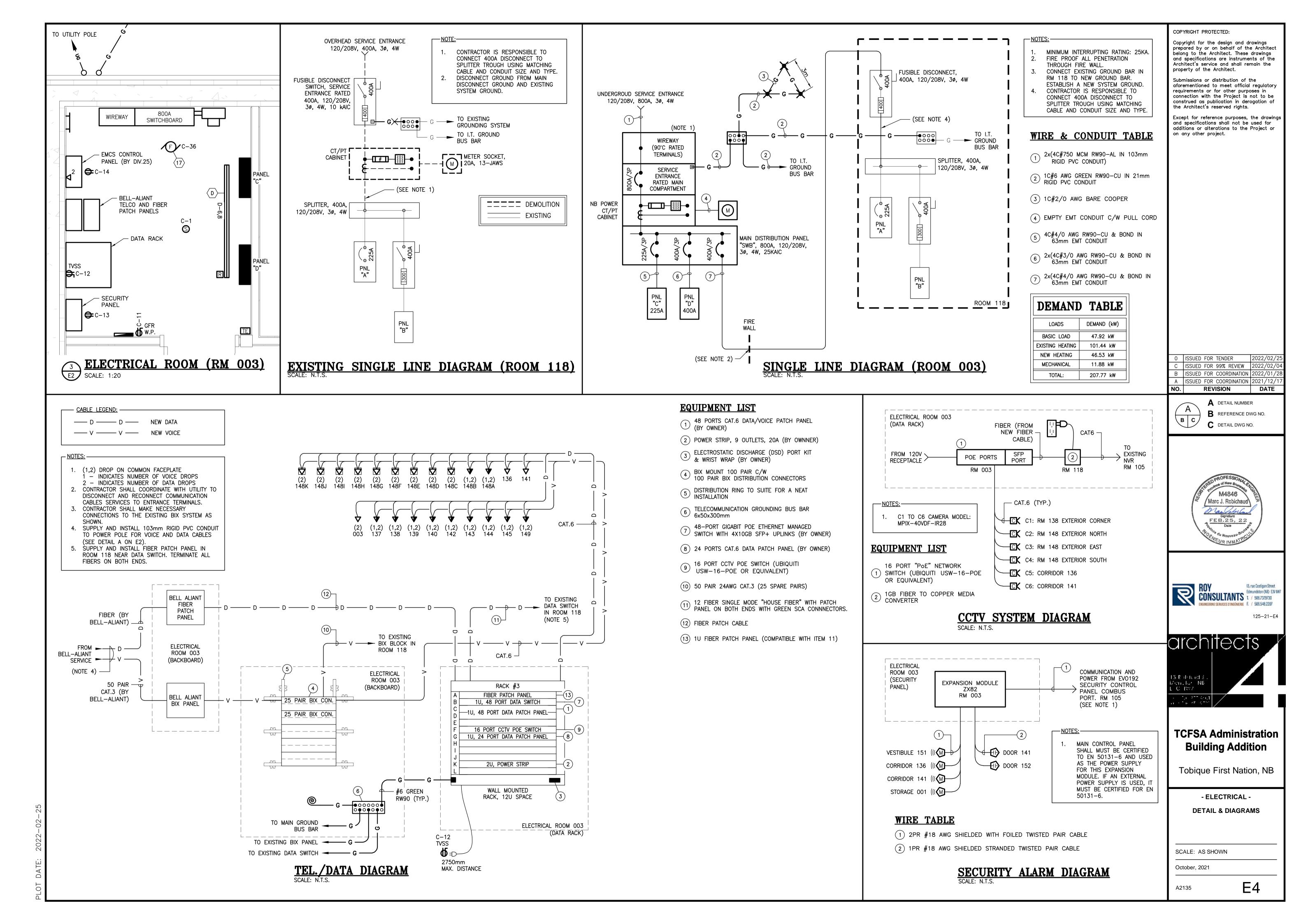
October, 2021

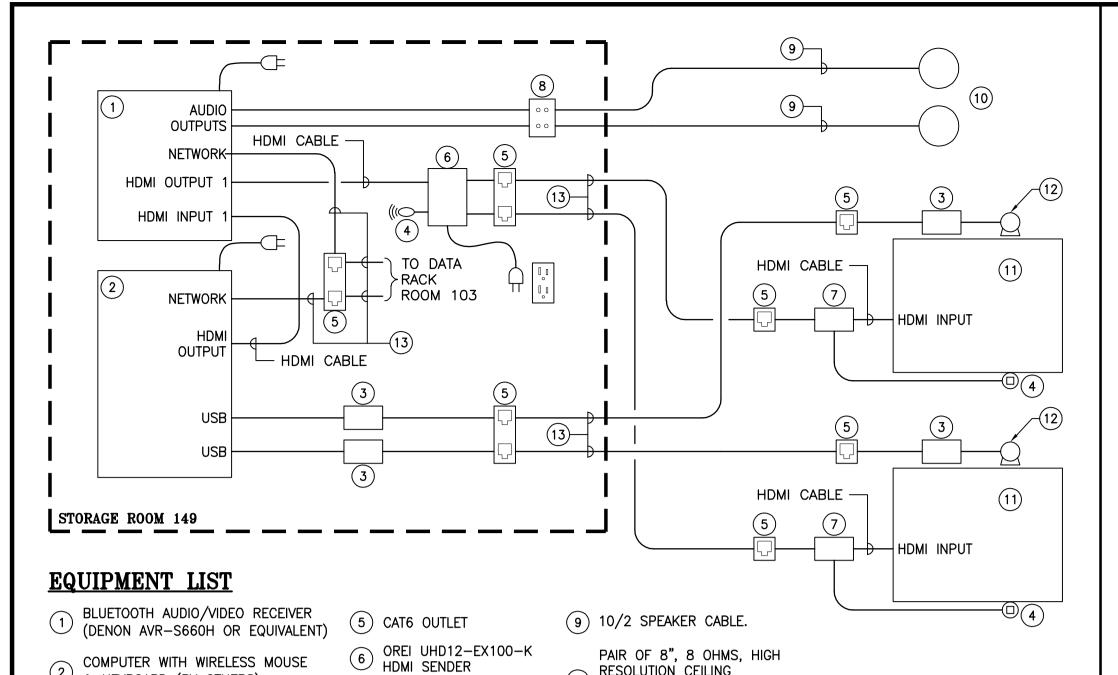
E2

A2135



E3





AUDIO/VIDEO SYSTEM

OREI UHD12-EX100-K HDMI RECEIVER

8 QUAD BANANA POST SPEAKER WALL PLATE

RESOLUTION CEILING SPEAKERS (YAMAHA

NS-IW560C OR EQUIVALENT) (12) USB CAMERA (BY OTHERS)

11) FLAT SCREEN TV (BY OTHERS) (13) SHIELDED CAT6 CABLE

COMPUTER WITH WIRELESS MOUSE & KEYBOARD (BY OTHERS)

USB 2.0 EXTENDER TRANSMITTER AND RECEIVER (BY OTHERS)

IR TRANSMITTER (1) AND RECEIVERS (2). INCLUDED WITH "OREI UHD12"

	LUMINAIRE	SCHEDULE								
TYPE	DESCRIPTION	MFR.	MODEL #	VOLTAGE	LAMP TYPE	WATT.	LUM/HOUR			
А	305x1220mm SURFACE LED LUMINAIRE, EXTRUDED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	14EN-LD2-33-UNV-L840-CD1 ACCESSORY: SK-14-WT	120V	LED 4000K CRI≽85	28W	3396/ 100000			
B	305x305mm SURFACE LED LUMINAIRE, STAMPED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	SMD12S-20-9S-WH-E	120V	LED 4000K CRI>85	26.5W	2237/ 100000			
C1	305x1220mm RECESSED LED LUMINAIRE, EXTRUDED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	14EN-LD2-38-UNV-L840-CD1 -SVPD1-U	120V	LED 4000K CRI>85	33W	3915/ 100000			
C2	305x1220mm RECESSED LED LUMINAIRE, EXTRUDED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	14EN-LD2-38-UNV-L840-CD1 ACCESSORY: DF-14-W	120V	LED 4000K CRI>85	33W	3915/ 100000			
C3	305x1220mm RECESSED LED LUMINAIRE, EXTRUDED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	14EN-LD2-38-UNV-L840-CD1 -SVPD1-U ACCESSORY: SK-14-WT	120V	LED 4000K CRI>85	33W	3915/ 100000			
D	305x1220mm RECESSED LED LUMINAIRE, EXTRUDED ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, BAKED MATTE WHITE ENAMEL FINISH.	METALUX (COOPER)	14EN-LD2-43-UNV-L840-CD1	120V	LED 4000K CRI≽85	38W	4422/ 100000			
Ē	150mm RECESSED LED SHALLOW LENS DOWNLIGHT, BOAT SHAPED GALVANIZED STEEL FRAME, PARABOLIC ALUMINUM REFLECTOR, HIGH OPTICAL EFFICIENCY, CONSTANT CURRENT DRIVER.	HALO COMMERCIAL (COOPER)	PD6-20-ED010- PDM6A-840-64V-W	120V	LED 4000K CRI>80	22W	2134/ 50000			
<u>©</u>	101mm REGRESSED DIRECT MOUNT LED FIXTURE, SMOOTH BAFFLE, ELECTRONIC DRIVER, 0-10V DIMMING. (SUPPLIED BY OWNER)	PORTFOLIO (COOPER)	LDA4A-09-8-40-D010TE REFLECTOR: LAR25NF	120V	LED 4000K CRI>80	13.8W	900/ 50000			
H3	610mm UNDERCABINET LED LUMINAIRE, HEAVY GAUGE ALUMINUM HOUSING, HIGH EFFICIENCY, ELECTRONIC DRIVER.	HALO (COOPER)	HU10-24-9-40-P	120V	LED 4000K CRI≽90	10.5W	615/ N/A			
0	100mm RECESSED LED POT LIGHT, ADJUSTABLE ACCENT, DIE-CAST, 1%" DEEP COLLAR, .18-GAUGE CRS HOUSING, HIGH BRIGHTNESS WHITE LED.	PORTFOLIO (COOPER)	LDA4A-09-8-40- D010TE-4LA0-W	120V	LED 4000K CRI>80	14W	900/ 50000			
J	2440x102mm WALL MOUNT LED LUMINAIRE, 6063 ALUMINUM HOUSING, HIGH OPTICAL GRADE ACRYLIC, LONG-LIFE LED, POLYESTER POWDER COAT FINISH.	NEO-RAY (COOPER)	S124DW-C575D-8-40-9F0- 1-U-DD-F-B	120V	LED 4000K CRI>85	43W	5788/ 100000			
K	DIFFUSED, FLEXIBLE, LINEAR LED LIGHTING REQUIRES COMPATIBLE DIMMABLE LED DRIVER (SOLD SEPARATELY)	BL LIGHTING	BL neonVIEW-DM-SI-40K- 10V-NVTK67SM-BC-CH	24V	LED 4000K 3 CRI>85	66W/FT	137/FT/ 50000			
	305x1220mm SURFACE LED LUMINAIRE, ALUMINUM BEZEL HOUSING, 2" HEIGHT.	METALUX (COOPER)	14FP3040HE ACC: FPSURF14	120V	LED 4000K CRI≽80	24.5W	3176/ 60000			

NOTE: ELECTRICAL CONTRACTOR IS RESPONSIBLE TO SUPPLY LUMINAIRE AS SPECIFIED IN DESCRIPTION AND MODEL NUMBER. IF ANY DISCREPANCY BETWEEN DESCRIPTION &

MODEL NUMBER, CONTACT CONSULTANT PRIOR TO TENDER CLOSING. SOME SPECIFIED LAMPS MAY NOT BE COMPATIBLE WITH THE DIFFERENT FIXTURE MANUFACTURERS. VERIFY WITH YOUR CHOSEN MANUFACTURER TO CONFIRM WHICH LAMP IS REQUIRED.

NOTE	1)	MEC	HAN	CAL	EQU	JIPM	ENT	CONN	ECTIO	N SCH	EDULE		
TAG	LOCATION	DESCRIPTION	VOLTAGE/ PHASE	HP/kW	MCA/FLA	MOP/OPD	STARTER SUPPLIED BY	STARTER TYPE	DISCONNECT MEANS	BREAKER /PANEL	POWER WIRING	INTERLOCK WITH	COMMENTS
1	MECHANICAL ROOM 002	HOT WATER HEATER "DHWT-2"	208/1	2.25 kW	10.8 FLA	20A MOP			BY DIV.26	20A-2P/ D-18,20	2C#12 AWG & BOND		GIANT 130E-3R7N
2	MECHANICAL ROOM 002	HEAT RECOVERY VENTILATOR "HRV-2"	120/1	1.27 kW	6.88 FLA	15A MOP			BY DIV.26	15A-1P/ D-21	2C#12 AWG & BOND		FANTECH SHI 700
3	MECHANICAL ROOM 002	AIR HANDLING UNIT "AHU-3"	208/3	2 HP	7.3 MCA	15A MOP			BY DIV.26	15A-3P/ D-22,24,26	3C#12 AWG & BOND		YORK MODEL NL090
4	OUTSIDE	HEAT PUMP CONDENSING UNIT	208/3	3 HP	35.5 MCA	45A MOP			BY DIV.23	45A-3P/ D-23,25,27	3C#6 AWG & BOND		YORK MODEL YC090
5	CORRIDOR 141	DUCT HEATER "VAV-141"	208/1	1.00 kW					BY DIV.23	15A-2P/ D-32,34	2C#12 AWG & BOND		E.H. PRICE SDV-5000
6	STORAGE 001 (BASEMENT)	DUCT HEATER "VAV-148"	208/3	11.0 kW					BY DIV.23	40A-3P/ D-29,31,33	3C#8 AWG & BOND		E.H. PRICE SDV-5000
7	OFFICE 145	DUCT HEATER "VAV-145"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-35,37	2C#10 AWG & BOND		E.H. PRICE SDV-5000
8	OFFICE 143	DUCT HEATER "VAV-143"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-35,37	2C#10 AWG & BOND		E.H. PRICE SDV-5000
9	OFFICE 140	DUCT HEATER "VAV-140"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-28,30	2C#10 AWG & BOND		E.H. PRICE SDV-5000
10	OFFICE 138	DUCT HEATER "VAV-138"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-28,30	2C#10 AWG & BOND		E.H. PRICE SDV-5000
11)	OFFICE 137	DUCT HEATER "VAV-137"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-28,30	2C#10 AWG & BOND		E.H. PRICE SDV-5000
12	OFFICE 139	DUCT HEATER "VAV-139"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-28,30	2C#10 AWG & BOND		E.H. PRICE SDV-5000
13>	OFFICE 142	DUCT HEATER "VAV-142"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-35,37	2C#10 AWG & BOND		E.H. PRICE SDV-5000
14	OFFICE 144	DUCT HEATER "VAV-144"	208/1	1.00 kW					BY DIV.23	30A-2P/ D-35,37	2C#10 AWG & BOND		E.H. PRICE SDV-5000
15	MECHANICAL ROOM 002	TRAP PRIMER "TP-2"	120/1	0.06 KW						15A-1P/ C-35	2C#12 AWG & BOND		PPPMP115
16	STORAGE 001 (BASEMENT)	DUCT HEATER "DH-2"	208/3	10.0 kW					BY DIV.23	40A-3P/ D-36,38,40	3C#8 AWG & BOND		NEPTRONICS
17	ELECTRICAL ROOM 003	EXHAUST FAN "EF-2"	120/1	0.05 kW					BY DIV.26	15A-1P/ C-36	2C#12 AWG & BOND		GREENHECK SP-A200
18	MECHANICAL ROOM 002	HUMIDIFIER "HUM-3"	208/1	7.5 kW	20.8 MCA	25A MOP			BY DIV.26	25A-2P/ D-39,41	3C#10 AWG & BOND		CONDAIR EL 020
19>	MECHANICAL & ELECTRICAL RM 118	EXHAUST FAN "EF-1" (NOTE 2)	120/1	0.07 kW	0.56 FLA				BY DIV.26	15A-1P/ B-79	2C#12 AWG & BOND		GREENHECI SPA-250

ANY INCONSISTENCY BETWEEN THIS TABLE AND EQUIPMENT ON SITE SHALL BE REPORTED TO CONSULTANT FOR REVIEW. MCA = MAXIMUM CIRCUIT AMPACITY FLA = FULL LOAD AMPS MOP = MAXIMUM OVERCURRENT PROTECTION OPD = OVERCURRENT PROTECTION DEVICEH-O-A = HAND-OFF-AUTO O-A = OFF-AUTO T-O-A = TEST-OFF-AUTO

NEW PANEL "C" C/W DOOR LOCK										1	#PRL2a			
POWER SUPPLY: 120/208V, 3ø-4W A B 7 105 8 800 5											C			
	MAINS: 225A MAIN LUGS 7,125 8,892 5,914												5,914	
	BRANCH BREAKERS: 72 CCT, 25 KAIC OR SERIES RATED													
	DESCRIPTION	DESCRIPTION LOAD RANGE S				+	4	-	ССТ	BRKR AMPS	LOAD		DESCRIPTION	
	LIGHTS, RM 002, 003, 004 & 005	245	15	1	-	—		\vdash	2	15	220	LIGHTS, STAIF	RWELL AND RM	001
	LIGHTS, CORRIDOR 136 AND RM 137, 138, 139 & 140	403	15	3	_	_	—		4	15	489	LIGHTS, CORRI 144 & 145	DOR 141 AND R	M 142, 143,
	LIGHTS, RM 146, 147, 148, 149 & 150	608	15	5	_			-	6	15	196	LIGHTS, OUTS	SIDE	
	EXIST SIGNS	60	15	7	-	—		F	8	20	200	RECEPT. COR	RIDOR 001	
	RECEPT. RM 005	800	15	9	_	_	-		10	15	1200	RECEPT. RM	001	
	RECEPT. RM 003 (WALL)	200	20	11	_		-	-	12	15	200	RECEPT. RM	003 (DATA &	CCTV PANEL
	RECEPT. RM 003 (SECURITY PANEL)	200	15	13	_	—		E	14	15	200	RECEPT. RM	003 (EMCS P/	ANEL)
	RECEPT. RM 002	200	20	15	_		—	E	16	20	200	RECEPT. RM	002 (SUMP)	
	RECEPT. CORRIDOR 136, 141 & STAIRWELL	1000	20	17	_		\Box	-	18	15	1200	RECEPT. RM	148 WALL	
	RECEPT. RM 148 (FLOOR)	1200	20	19	—	-		\vdash	20	20	1200	RECEPT. RM	148 (FLOOR)	
	RECEPT. FRIDGE RM 150	500	15	21	_	Ĭ	-	\vdash	22	20	1500	RECEPT. MICI	ROWAVE RM 15	50
	RECEPT. COUNTER RM 150	200	20	23	_		H	-	24	20	200	RECEPT. COL	JNTER RM 150	
	RECEPT. RM 146, 147 & 149	600	15	25	—	-			26	15	1000	RECEPT. RM	145	
	RECEPT. RM 143	1000	15	27	_	_	_		28	15	1000	RECEPT. RM	140	
	RECEPT. RM 138	1000	15	29	_			-	30	15	1000	RECEPT. RM	137	
	RECEPT. RM 139	1000	15	31	_	-			32	15	1000	RECEPT. RM	142	
	RECEPT. RM 144	1000	15	33	_	_	_		34	20	600	RECEPT. OUT	SIDE	
	TRAP PRIMER "TP-2"	60	15	35	_			-	36	15	50	EXHAUST FAN	N "EF-2"	
		0		37	_	_			38		0			
		0		39			_		40		0			
		0		41				_	42		0			
		0		43	_	_			44		0			
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		0		67	-			F	68		0			
		0		69 71			_	F	70 72		0			

_								
;	*	INDICATES	BREAKER	LOCKED	IN	THE	"ON"	POSITION.

NEW PANEL "D"											EATON	#PRL	
POWER SUPPLY: 120/208	3V, 3ø	-4W								Α	В	С	
MAINS: 400A MAIN LUGS										28,889	30,659	30,3	
BRANCH BREAKERS: 60 CC	T, 25	kAlC	0	R S	SEF	RIE	S F	RATE)				
DESCRIPTION	LOAD	BRKR	CCT	_	N	_	CCT	BRKR AMPS	LOAD		DESCRIPTION		
HEATING BASEBOARDS	1750	25	1	+	+	+	2	25	1750	HEATING BAS	EBOARDS		
RM 001	1750	2P	3		•		4	2P	1750	RM 001			
HEATING BASEBOARD	1750	25	5	1	+	-	6	30	2125	HEATING BAS	EBOARD		
RM 001 & 002	1750	2P	7	-			8	2P	2125	RM 003, 004	& 005		
HEATING BASEBOARD	1750	25	9	\vdash	•		10	25	1875	HEATING BAS			
RM 005	1750	2P	11			•	12	2P	1875	RM 137, 138	3 & 139		
HEATING BASEBOARDS	1875	25	13	-	\downarrow		14	30	2000	HEATING BAS			
RM 140, 142 & 143	1875	2P	15		•		16	 2P	2000	RM 144, 145	5, 146 & 147		
HEATING BASEBOARDS	1875	25	17		\pm	•	18	20	1125		HOT WATER HEATER "DHWT-2"		
RM 149, ENTRY AND STAIRS	1875	2P	19	-	#		20	2P	1125	RM 002			
HEAT RECOVERY VENTILATOR "HRV-2"	1270	15	21		+		22	15	876	AIR HANDLING UNIT "AHU-3" RM 002			
HEAT PUMP CONDENSING UNIT "CU-3"	4263	45	23	\vdash		•	24	3P	876				
(OUITSIDE)	4263	3P	25				26	3P	876				
	4263	3P	27		+		28	30	2000	DUCT HEATER "VAV-139", "	RS "VAV-137",	"VAV-13	
DUCT HEATER "VAV-148"	3667	40	29	\vdash	+		30	•	2000	VAV 100,	170		
RM 148	3667 3667	3P 3P	31 33	\vdash	\mp		32 34	15 2P	500	DUCT HEATER	"VAV-141"		
	2000	<u> </u>		\vdash	\perp			40					
DUCT HEATERS "VAV-142", "VAV-143", "VAV-144", "VAV-145"	2000	2P	37	\vdash			38	н—	3333	DUCT HEATER	"DH-2"		
	3750	25	39	\vdash	\downarrow		40	н—	3333	RM 148			
HUMIDIFIER "HUM-3"	3750	2P	41	\vdash			42	-	0				
	0		43	\vdash	#		44		0				
	0		45	\vdash	-		46		0				
	0		47		+	-	48		0				
	0		49	-	\downarrow	+	50		0				
	0		51	_	•		52		0				
	0		53		\pm	•	54		0				
	0		55				56		0				
	0		57		•		58		0				
	0		59	\vdash		•	60		0				

	HEATER SCHEDULE											
TYPE	DESCRIPTION	MANUFACTURER	MODEL	VOLT.	WATTS	PH	MOUNTING	CONTROLS	COMMENTS			
(A)	CEILING HEATER	OUELLET	OVRP0750 KIT: KIT-OVR-BS	208V	563	1	CEILING	BY DIV.23				
B	BASEBOARD HEATER	OUELLET	OFM0758	208V	750	1	WALL	BY DIV.23				
(C)	BASEBOARD HEATER	OUELLET	OFM1758	208V	1750	1	WALL	BY DIV.23				
D	BASEBOARD HEATER	OUELLET	OFM1258	208V	1250	1	WALL	BY DIV.23				
E	CONVECTION HEATER	OUELLET	0AC02008-R	208V	2000	1	WALL	BY DIV.23	BUILT-IN 24V CONTROL RELAY			

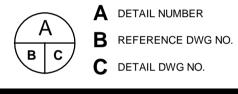
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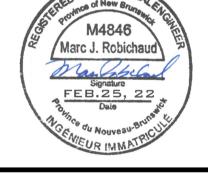
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O ISSUED FOR TENDER ISSUED FOR 99% REVIEW 2022/02/04 B ISSUED FOR COORDINATION 2022/01/2 A ISSUED FOR COORDINATION 2021/12/1 REVISION







architects 13 Elebtord 3 iZentiler INB L. C. 1877

TCFSA Administration Building Addition

Tobique First Nation, NB

- ELECTRICAL -

DIAGRAM &

SCHEDULES

E5

SCALE: AS SHOWN

October, 2021

A2135

SPECIFICATION NOTES SECTIONS, DIVISION 26, 27 AND 28

SCOPE OF WORK

- 1.1 THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOUR, MATERIALS, TOOLS, APPLIANCES AND EQUIPMENT TO ENTIRELY COMPLETE AND PROVIDE FOR THE OPERATION OF THE ELECTRICAL SYSTEMS, AS INDICATED IN THESE SPECIFICATIONS, AND AS SHOWN
- 1.2 THE OVERALL INTENTION IS TO PROVIDE FOR A FINISHED PIECE OF WORK COMPLETE IN ALL ASPECTS. AND ALL ITEMS REASONABLY INFERABLE AS CALLED FOR BY THE PLANS AND SPECIFICATIONS. AND BY NORMALLY ACCEPTED GOOD PRACTICE. NOTWITHSTANDING THAT EVERY ITEM NECESSARILY REQUIRED MAY NOT BE PARTICULARLY MENTIONED. THIS CONTRACTOR SHALL FULFILL HIS OBLIGATION AND NOT TAKE ADVANTAGE OF ANY UNINTENTIONAL ERRORS OR OMISSIONS SHOULD SUCH EXIST. TO THE DETRIMENT OF THE OWNERS' INTEREST. GENERALLY THE WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 - ELECTRICAL DEMOLITION AS INDICATED ON DRAWINGS,
 - PROVIDE AND INSTALL CONDUITS AND WIRING FROM NEW NB POWER TRANSFORMER BANK POLE TO EXISTING BUILDING SERVICE ENTRANCE. COORDINATE WORK WITH NB
 - PROVIDE AND INSTALL EXTERIOR LIGHTING FIXTURES AND ITS CONTROLS;
 - POWER DISTRIBUTION: WIRING OF EQUIPMENT SUPPLIED BY OTHERS WHICH INCLUDES MECHANICAL
 - SYSTEMS AND BUILDING SERVICE EQUIPMENT:
 - PROVIDE AND INSTALL WIRING DEVICES;
 - PROVIDE AND INSTALL LIGHTING FIXTURES AND ITS CONTROLS;
 - PROVIDE AND INSTALL NEW EMERGENCY LIGHTS AND EXIT LIGHTS; CONDUIT, CABLE TRAY, WIRING AND ITS INSTALLATION;
 - .10 PROVIDE AND INSTALL ELECTRIC HEATING AND ITS CONTROLS, COORDINATE WITH
 - DIV.25; .11 COMMUNICATIONS SYSTEMS:
 - DATA/VOICE SYSTEM,
 - SECURITY SYSTEM.
 - CCTV SYSTEM, AUDIO/VIDEO SYSTEM.
 - .12 TESTING OF SYSTEMS FOR ACCEPTANCE OF INSPECTION AUTHORITY;
 - .13 SUPPLY OF TEMPORARY LIGHTING AND POWER IF NECESSARY; .14 MARK-UP "AS-BUILT" IN RED ON PRINT AND TURN OVER TO CONSULTANT.

GENERAL REQUIREMENTS

- PROVIDE LABOUR, PRODUCTS, CONSTRUCTION TOOLS AND EQUIPMENT, FACILITIES AND SERVICE NECESSARY FOR PERFORMANCE OF WORK AS INDICATED AND SPECIFIED.
- 2.2 CONTRACTOR SHALL VISIT SITE PRIOR TO TENDER CLOSE. NO ALLOWANCE SHALL BE MADE FOR PROBLEMS DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS THAT COULD REASONABLY HAVE BEEN ASCERTAINED BY A CAREFUL INSPECTION.
- 2.3 ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND THEIR AMENDMENTS, IN A MANNER CONSISTENT WITH GOOD WORKMANSHIP.
- 2.4 SCHEDULE ALL ELECTRICAL WORK WITH GENERAL CONTRACTOR AND USER. THE DEPARTMENT WILL REMAIN OPEN DURING REGULAR HOURS. ALL WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO AFFECT MINIMAL DISRUPTION TO THE OCCUPANTS. ANY DISRUPTIVE WORK SHALL BE SCHEDULED DURING THE NIGHT OR ON WEEKENDS.
- 2.5 COORDINATE ANY POWER SHUT DOWN WITH OWNER/USER (72 HOURS NOTICE REQUIRED).
- 2.6 OBTAIN PERMITS AND CERTIFICATIONS, SUBMIT DRAWINGS TO INSPECTION AUTHORITY.
- 2.7 COORDINATE WORK WITH OTHERS.
- 2.8 REVIEW MECHANICAL DRAWINGS, PROVIDE POWER TO ALL MECHANICAL EQUIPMENT AND COORDINATE TESTING.
- 2.9 SUBMIT ONE (1) COPY OF ELECTRONIC (PDF) SHOP DRAWINGS FOR REVIEW BY CONSULTANT OF ALL EQUIPMENT AND MATERIAL SPECIFIED
- 2.10 ALL MATERIAL SUPPLIED SHALL BE NEW AND CARRY CSA OR ULC CERTIFICATION.
- 2.11 SUBMIT THREE (3) COPIES OF OPERATION AND MAINTENANCE INSTRUCTIONS, TOGETHER WITH ALL APPROVED SHOP DRAWINGS, BOUND IN THREE RING BINDERS. INCLUDE IN
 - OPERATION AND MAINTENANCE MANUALS: NAME AND ADDRESS OF ELECTRICAL CONTRACTOR;
 - NAMES AND ADDRESSES OF LOCAL SUPPLIERS; COPY OF ALL PERMITS AND CERTIFICATES;
 - .4 COPY OF GUARANTEE CERTIFICATE OF ALL WORK PERFORMED FOR A PERIOD OF ONE (1) YEAR;
 - .5 DETAILS OF DESIGN ELEMENTS, CONSTRUCTION FEATURES, COMPONENT FUNCTION AND MAINTENANCE REQUIREMENTS, TO PERMIT EFFECTIVE START-UP, OPERATION, MAINTENANCE, REPAIR, MODIFICATION, EXTENSION AND EXPANSION OF ANY PORTION OR FEATURE OF INSTALLATION.
 - .6 TECHNICAL DATA, PRODUCT DATA, SUPPLEMENTED BY BULLETINS, COMPONENT ILLUSTRATIONS, EXPLODED VIEWS, TECHNICAL DESCRIPTIONS OF ITEMS, AND PARTS
 - LISTS. ADVERTISING OR SALES LITERATURE NOT ACCEPTABLE; WIRING AND SCHEMATIC DIAGRAMS AND PERFORMANCE CURVES;
 - COPY OF REVIEWED SHOP DRAWINGS:
 - .9 COPY OF ALL TEST CERTIFICATES:
 - .10 COPY OF ALL FINAL PANELBOARD SCHEDULES;
 - .11 COPY OF THE SIGNED LETTER OF RECEPTION OF ALL SPARE PARTS SUPPLIED.
- 2.12 MAINTAIN ONE (1) SET OF PLANS ON WHICH SHALL BE CLEARLY NOTED ALL CHANGES OR DEVIATIONS FROM THE CONTRACT DRAWINGS, AND SUBMIT THEM AT THE END OF THE PROJECT MARKED "AS-BUILT DRAWINGS".
- 2.13 ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL WALLS AND OPENINGS.
- 2.14 ALL CORE DRILLING, CUTTING, PATCHING AND FIRESTOPPING OF PENETRATIONS THROUGH WALLS AND FLOORS. SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- IDENTIFICATION TO INDICATE LOAD DESIGNATION AND RATING. 2.16 CONTRACTOR SHALL INSTRUCT OWNER IN OPERATION OF EQUIPMENT SUCH AS CCTV SYSTEM, SECURITY SYSTEM, DIMMING SYSTEM, LIGHTING CONTROLS, CARD ACCESS,

2.15 ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH 1/8" (3.2mm) THICK LAMICOID

NAMEPLATES WITH WHITE FACE AND BLACK CORE, MECHANICALLY ATTACHED.

- 2.17 PROVIDE IN WRITING A GUARANTEE COVERING ALL LABOR AND MATERIAL FOR A PERIOD
- OF ONE YEAR FROM FINAL ACCEPTANCE OF WORK, AND AGREE TO REPAIR AND MAKE GOOD ALL DEFECTS DURING THAT TIME.

3. <u>UNDERGROUND DUCTS AND CABLES</u>

- 3.1 ALL TRENCHING, CONCRETE WORK AND BACKFILLING SHALL BE BY GENERAL CONTRACTOR.
- 3.2 ALL UNDERGROUND SERVICES ARE TO BE LOCATED PRIOR TO EXCAVATION. ANY DAMAGE TO SUCH SERVICE SHALL BE THE RESPONSIBILITY OF, AND CORRECTED AT THE EXPENSE OF THE CONTRACTOR.
- 3.3 THE CONTRACTOR SHALL NOTIFY AND MAKE THE NECESSARY ARRANGEMENTS WITH CITY, TOWN, D.O.T., MUNICIPAL AUTHORITIES, N.B. POWER AND ALIANT PRIOR TO ANY
- 3.4 ALL SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.

4. CONDUIT AND WIRING

- 4.1 ALL WIRING SHALL BE RUN CONCEALED IN FINISHED AREAS AND SHALL BE RUN PARALLEL TO BUILDING LINES.
- 4.2 ALL EXPOSED WIRING SHALL BE RUN PARALLEL TO BUILDING LINES.
- NMD90 IN WOOD CONSTRUCTION/WALL;
- AC90 OR TECK CABLE FOR TEMPORARY WORK; AC90 C/W ANTI-SHORT BUSHING IN METAL CONSTRUCTION/WALL;
- USE FLEXIBLE CONDUIT C/W ANTI-SHORT BUSHINGS FOR MECHANICAL EQUIPMENT; RW90 IN EMT CONDUIT FOR SURFACE MOUNTED INSTALLATION AND AS INDICATED:
- RWU90 IN RIGID PVC CONDUIT (UNDERGROUND) RW90 IN LIQUID TIGHT FLEX CONDUIT CONNECTED TO MECHANICAL EQUIPMENT:
- ALL CONDUITS SHALL HAVE INDIVIDUAL BOND AND NEUTRAL CONDUCTORS, MINIMUM #12 AWG; MINIMUM #12 AWG;
- .10 ALL EMPTY CONDUITS SHALL BE COMPLETE WITH NYLON PULL STRING.
- .11 ALL CABLES ROUTED IN PLENUM SHALL BE RATED MINIMUM FT6. .12. ALL CABLES ABOVE CEILING TO BE SUPPORTED BY J-HOOK TYPE SUPPORT RACEWAYS. THERE SHALL BE AT LEAST THREE TYPES OF RACEWAYS: POWER, COMMUNICATION AND ALARM WIRING.
- 4.4 RIGID PVC CONDUIT SHALL BE USED FOR ALL UNDERGROUND WORK.
- 4.5 ALL ELECTRICAL AND COMMUNICATION CONDUITS SHALL BE COLOR CODED AS PER OWNER'S REQUIREMENTS AND AS PER EXISTING INSTALLATION.
- 4.6 IDENTIFY WIRING WITH PERMANENT INDELIBLE IDENTIFYING MARKINGS, EITHER NUMBERED OR COLORED TAPES, ON BOTH ENDS OF PHASE CONDUCTORS OF FEEDERS AND BRANCH CIRCUIT WIRING, AND MAINTAIN PHASE SEQUENCE AND COLOR CODING THROUGHOUT. USE CIRCUIT NUMBERS ON WIRING FOR RECEPTACLES LOCATED AT THE BEDHEAD.
- 4.7 INSTALL CONNECTORS ON SURFACE CONDUITS, SO THAT SCREW HEADS DO NOT POSE A
- DANGER TO OCCUPANTS. 4.8 FASTEN EXPOSED CONDUIT OR CABLES TO BUILDING CONSTRUCTION OR SUPPORT SYSTEM
- 4.9 PROVIDE ADEQUATE SUPPORT FOR RACEWAYS AND CABLES DROPPED VERTICALLY TO EQUIPMENT, WHERE THERE IS NO WALL SUPPORT.
- 4.10 DO NOT USE WIRE LASHING OR PERFORATED STRAPPING TO SUPPORT OR SECURE RACEWAYS OR CABLE.
- 4.11 DO NOT USE SUPPORTS OR EQUIPMENT INSTALLED FOR OTHER TRADES FOR CONDUIT OR CABLE SUPPORT. EXCEPT WITH PERMISSION OF OTHER TRADE AND APPROVAL OF CONSULTANT.
- 4.12 SUPPORT ALL BOXES INDEPENDENTLY OF CONNECTING CONDUITS.

CLEAT BONDING WIRE TO EXTERIOR OF FLEXIBLE CONDUIT.

- 4.13 INSTALL POLYETHYLENE VAPOR BARRIER BOX ON ALL EXTERIOR WALL OUTLETS TO MAINTAIN VAPOR BARRIER INTEGRITY.
- 4.14 IDENTIFY ALL BOXES IN INTERSTITIAL SPACE WITH ROOM NUMBER AS WELL AS COLOR CODING.
- 4.15 INSTALL BONDING WIRE FOR FLEXIBLE CONDUIT, CONNECTED AT BOTH ENDS TO GROUNDING BUSHING, SOLDERLESS LUG, CLAMP, OR CUP WASHER AND SCREW. NEATLY
- 4.16 ASSURE THAT ALL CONDUCTORS ARE SIZED FOR MAXIMUM VOLTAGE DROP OF:
 - BRANCH CIRCUIT FEEDERS 2% PANEL FEEDERS - 2%

USING ONE OR TWO HOLE STEEL STRAPS.

- DISTRIBUTION 1%
- 4.17 SEAL ALL CONDUITS WHICH ENTER AIR HANDLING UNITS IN ACCORDANCE WITH CEC RULE 22-302.

5. WIRING DEVICES

- 5.1 WIRING DEVICES IN LEGEND ARE INTENDED TO SET A STANDARD BELOW WHICH EQUIPMENT WILL NOT BE ACCEPTED.
- 5.2 ALL DEVICES SHALL BE HEAVY DUTY, SPEC GRADE, WHITE, WITH WHITE NYLON COVER PLATES. WIRING DEVICES OUTSIDE OF SUITES: "SPEC" GRADE.
- 5.3 RECEPTACLES SHALL BE INSTALLED WITH THE "U" GROUND AT THE TOP.
- 5.4 COVERPLATES SHALL BE NYLON, COLOR WHITE.
- 5.5 MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF DEVICE. (MATCH EXISTING UNLESS STATED OTHERWISE).
 - RECEPTACLES 17" (450mm)
 - DATA OUTLETS 17" (450mm) TELEPHONE OUTLETS - 17" (450mm)
 - SWITCHES 54" (1370mm)
 - EXIT SIGNS 12" (300mm) ABOVE DOOR FRAME
 - EMERGENCY LIGHTS 12" (300mm) ABOVE DOOR FRAME
 - OVER COUNTER 6" (150mm) OVER CONTINUOUS BASEBOARD HEATER - 8" (200mm)
- .9 OVER BENCH ROOM 132 6" (150mm)
- 5.6 ACCEPTABLE MANUFACTURERS: HUBBELL, LEVITON, PASS & SEYMOUR.

6. PANELBOARDS / BREAKERS

- 6.1 PANELBOARDS: TO CSA C22.2 NO.29 AND PRODUCT OF ONE MANUFACTURER.
- INSTALL CIRCUIT BREAKERS IN PANNELBOARDS BEFORE SHIPMENT. IN ADDITION TO CSA REQUIREMENTS MANUFACTURER'S NAMEPLATE MUST SHOW FAULT CURRENT THAT PANEL INCLUDING BREAKERS HAS BEEN BUILT TO WITHSTAND.
- 6.2 250V PANELBOARDS: BUS AND BREAKERS RATED FOR 50kA INTERRUPTING CAPACITY OR AS INDICATED.
- 6.3 SEQUENCE PHASE BUSSING WITH ODD NUMBERED BREAKERS ON LEFT AND EVEN ON RIGHT, WITH EACH BREAKER IDENTIFIED BY PERMANENT NUMBER IDENTIFICATION AS TO CIRCUIT NUMBER AND PHASE.
- 6.4 PANELBOARDS: MAINS, NUMBER OF CIRCUITS, AND NUMBER AND SIZE OF BRANCH CIRCUIT BREAKERS AS INDICATED.
- 6.5 MINIMUM OF 2 FLUSH LOCKS FOR EACH PANELBOARD.
- 6.6 TWO KEYS FOR EACH PANELBOARD AND KEY PANELBOARDS ALIKE.
- 6.7 ALUMINUM BUS WITH NEUTRAL OF SAME AMPERE RATING OF MAINS.
- 6.8 MAINS: SUITABLE FOR BOLT-ON BREAKERS.
- 6.9 TRIM WITH CONCEALED FRONT BOLTS AND HINGES.
- 6.10 TRIM AND DOOR FINISH: BAKED ENAMEL.
- 6.11 ISOLATED GROUND BUS.

- 6.12 INCLUDE GROUNDING BUSBAR WITH 3 OF TERMINALS FOR BONDING CONDUCTOR EQUAL TO BREAKER CAPACITY OF THE PANEL BOARD.
- 6.13 MOUNT SURFACE PANELBOARDS ON PLYWOOD BACKBOARD PAINTED FIRE RETARDANT GRAY.
- 6.14 PROVIDE NEW UPDATED, TYPED DIRECTORIES FOR ALL PANELBOARDS INVOLVED IN THIS RENOVATION, AS TO LOAD AND LOCATION. MARKUP CIRCUITS OF ALL DEVICES SHOWN ON THESE DRAWINGS.
- 6.15 ACCEPTABLE MANUFACTURERS: EATON, SCHNEIDER, SIEMENS.

7. **GROUNDING**

7.1 THE ELECTRICAL SYSTEM. AS PERTAINS TO THIS RENOVATION, SHALL BE GROUNDED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE, AND LOCAL AUTHORITY HAVING JURISDICTION OVER INSTALLATION

8. <u>LIGHTING</u>

- 8.1 LUMINAIRES IN SCHEDULE ARE INTENDED TO SET A STANDARD BELOW WHICH EQUIPMENT WILL NOT BE ACCEPTED.
- 8.2 SUPPORT LUMINAIRES INDEPENDENTLY FROM SUSPENDED CEILING.
- 8.3 ALIGN LUMINAIRES MOUNTED IN CONTINUOUS ROWS TO FORM STRAIGHT UNINTERRUPTED
- 8.4 ACCEPTABLE MANUFACTURERS: EATON, CFI, METALUX, LITHONIA, LIGHTOLIER, BEGHELLI

9. <u>COMMUNICATION</u>

- - THE SECURITY SYSTEM SHALL BE TESTED AND VERIFIED TO CONFIRM THAT IT IS OPERATING IN CONFORMANCE WITH THE MANUFACTURERS REQUIREMENTS, BY ULC APPROVED. FACTORY TRAINED PERSONNEL.
- 9.2 DATA
 - DATA CABLING, TERMINATIONS AND TESTING SHALL BE PERFORMED BY AN END TO END "CERTIFIED SYSTEM VENDOR", OR "FACTORY AUTHORIZED CONTRACTOR", AND SHALL BE "IBDN CERTIFIED". AND SHALL HAVE A 20 YEAR PASSIVE COMPONENT GUARANTY. PROVIDE TEST RESULTS AND CERTIFICATION.

10. EMERGENCY LIGHTING

- 10.1 EMERGENCY LIGHTING EQUIPMENT: TO CSA C22.2 NO.141.
- 10.2 SUPPLY VOLTAGE: 120V. AC.
- 10.3 OUTPUT VOLTAGE: 12V DC.
- 10.4 OPERATING TIME: 30 MINUTES. 10.5 BATTERY: SEALED, MAINTENANCE FREE.
- 10.6 CHARGER: SOLID STATE, MULTI-RATE, VOLTAGE/CURRENT REGULATED, INVERSE TEMPERATURE COMPENSATED. SHORT CIRCUIT PROTECTED WITH REGULATED OUTPUT

OF PLUS OR MINUS 0.01V FOR PLUS OR MINUS 10% INPUT VARIATIONS.

- 10.7 SOLID STATE TRANSFER CIRCUIT.
- 10.8 LOW VOLTAGE DISCONNECT: SOLID STATE, MODULAR, OPERATES AT 80% BATTERY OUTPUT VOLTAGE.
- 10.9 SIGNAL LIGHTS: SOLID STATE. FOR "AC POWER ON" AND "HIGH CHARGE".
- 10.10 LAMP HEADS: INTEGRAL ON UNIT, 345 DEGREES HORIZONTAL AND 180 DEGREES VERTICAL ADJUSTMENT. LAMP TYPE: LED, 5.7W, MINIMUM 200 LUMEN MINIMUM OUTPUT.
- 10.11 CABINET: SUITABLE FOR DIRECT OR SHELF MOUNTING TO WALL C/W KNOCKOUTS FOR CONDUIT. REMOVABLE OR HINGED FRONT PANEL FOR EASY ACCESS TO BATTERIES.
- 10.12 AUXILIARY EQUIPMENT:

.1 TEST SWITCH.

- 10.13 WIRE GUARDS WHERE INDICATED.
- 10.14 ACCEPTABLE MANUFACTURERS FOR BATTERY PACK FIXTURES:
 - LUMACELL RG12 SERIES.
- AIM-LITE EBQV SERIES. READY-LITE LDX12 SERIES.
- 10.15 ACCEPTABLE MANUFACTURERS FOR REMOTE HEAD FIXTURES:
- LUMACELL RSQB2 SERIES.
- AIM-LITE RMQVD SERIES. READY-LITE VMW SERIES.

ON/OFF LOCKING PROVISIONS.

11. DISTRIBUTION / STARTERS, CONTACTORS

- 11.1 DISCONNECT SWITCHES SHALL BE FUSIBLE, HEAVY DUTY, SPECIFICATION GRADE.
- 11.2 MANUAL STARTERS SHALL BE TOGGLE SWITCH TYPE C/W INDICATING LIGHT AND LOCKING

11.3 COMBINATION MAGNETIC STARTER SHALL BE EEMAC RATED, CIRCUIT BREAKER TYPE, WITH

- (24 V/120 V) COIL AND CONTROL TRANSFORMER, T.O.A. SWITCH, PILOT LIGHTS, AND ONE N/O, ONE N/C AUXILIARY CONTACTS. 11.4 MAGNETIC STARTER SHALL BE COMPLETED WITH H.O.A. SWITCH, CONTROL TRANSFORMER
- 11.5 CONTACTORS SHALL HAVE RED INDICATING LIGHT, AND H.O.A. SWITCH IN COVER.
- 11.6 ALL EQUIPMENT SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED; I.E. WEATHERPROOF, DUSTPROOF, OR WITH SPLASH PROTECTION WHEN SPRINKLERED.

AND HOLDING COIL, INDICATING LIGHTS, ONE N/O, ONE N/C AUXILIARY CONTACTS,

12. SPLITTERS, JUNCTION, PULL BOX AND CABINETS

- 12.1 SPLITTERS CONSTRUCTION: SHEET METAL ENCLOSURE, WELDED CORNERS AND FORMED
 - HINGED COVER SUITABLE FOR LOCKING IN CLOSED POSITION. TERMINATIONS: CONNECTION BLOCKS TO MATCH REQUIRED SIZE AND

COVERS FLUSH MOUNTED: 25mm MINIMUM EXTENSION ALL AROUND.

NUMBER OF INCOMING AND OUTGOING CONDUCTORS AS INDICATED. SPARE TERMINALS: MINIMUM THREE SPARE TERMINALS ON EACH CONNECTION OR LUG BLOCK SIZED LESS THAN 400A.

COVERS SURFACE MOUNTED: SCREW-ON FLAT COVERS.

CONSTRUCTION: WELDED STEEL ENCLOSED.

- 12.2 JUNCTION AND PULL BOXES
- 12.3 CABINETS CONSTRUCTION: WELDED SHEET STEEL HINGED DOOR, HANDLE, LATCH AND LOCK, 2 KEYS AND CATCH.

13. DEMOLITION / RENOVATION

- 13.1 ELECTRICAL CONTRACTOR SHALL ENSURE ELECTRICAL CONTINUITY TO EXISTING DEVICES REMAINING AND THOSE REMOVED.
- 13.2 RELOCATE EXISTING WIRING, RACEWAYS, FIXTURES AND DEVICES AS REQUIRED TO MAINTAIN REASONABLE ACCESSIBILITY, AND TO FACILITATE INSTALLATION OF TOTAL PROJECT WORK.
- 13.3 REMOVE ALL REDUNDANT DEVICES, WIRING AND CONDUIT BACK TO THEIR SOURCE OF
- 13.4 TURN OVER TO OWNER ALL DEVICES, LIGHTING, EQUIPMENT, BREAKERS, ETC. REMOVED DURING CONSTRUCTION UNLESS REUSED. ALL EQUIPMENT WHICH OWNER REFUSES IS TO BE REMOVED FROM SITE.
- 13.5 WHERE NEW DRYWALL COVERS EXISTING JUNCTION OR PULL BOXES, INSTALL ACCESS HATCHES.
- 13.6 REMOVE CONTAMINATED OR DANGEROUS MATERIALS AS DEFINED BY AUTHORITIES HAVING JURISDICTION RELATING TO ENVIRONMENTAL PROTECTION FROM SITE AND DISPOSE OF IN SAFE MANNER TO MINIMIZE DANGER AT SITE OR DURING DISPOSAL

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TCFSA Administration **Building Addition**

Tobique First Nation, NB

SPECIFICATIONS

- ELECTRICAL -

October, 2021

SCALE: AS SHOWN

A2135

E6