

**GENERAL ELECTRICAL NOTES**

- CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC. SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
- OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
  - THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
  - THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE INSTALLER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
  - THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
- EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONCEALED AREAS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
- SUBMITTALS: PROVIDE ORIGINAL ELECTRONIC PDF FORMAT, BOUND, AND HIGHLIGHTED (EACH SECTION, PRODUCT), AND HIGHLIGHTED JOB NAME AND SUBCONTRACTOR SHALL BE ON THE FRONT COVER. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
- REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.
- ALL WORK SHALL BE DONE ACCORDING TO THE CURRENT NATIONAL ELECTRIC CODE (NEC, IBC, NFPA, AND IFC). COMPLIANCE AND FINAL APPROVAL IS SUBJECT TO THE ON SITE FIELD INSPECTION OF THE AHJ.

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**DEFINITIONS**

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN," "NOTED," "SCHEDULED," AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED," "REQUESTED," "AUTHORIZED," "SELECTED," "APPROVED," "REQUIRED," AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER," "REQUESTED BY THE ENGINEER," AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED" WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 75 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC..

**ABBREVIATIONS**

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	KVA	KILOVOLT AMPERE
1PH	SINGLE-PHASE	KVAR	KILOVOLT AMPERE REACTIVE
1WAY	ONE-WAY	KW	KILOWATT
2/C	TWO-CONDUCTOR	KWH	KILOWATT HOUR
2WAY	TWO-WAY	LED	LIGHT EMITTING DIODE
3/C	THREE-CONDUCTOR	LFCM	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3WAY	THREE-WAY	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4OUT	QUADRUPLE RECEPTACLE OUTLET	LPS	LOW PRESSURE SODIUM LOCKED ROTOR AMPS
4PDT	FOUR-POLE DOUBLE THROW	LPG	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT SYSTEM
4PST	FOUR-POLE SINGLE THROW	LRS	LOW RESISTANCE SWITCH
4W	FOUR-WIRE	LTG	LIQUID TIGHT GROUNDING
4WAY	FOUR-WAY	LV	LOW VOLTAGE
A	ABOVE COUNTER	MATV	MASTER ANTENNA TELEVISION SYSTEM
AC	ARMORED CABLE	MAX	MAXIMUM
ADA	AMERICANS WITH DISABILITIES ACT	MCC	METAL CLAD
ADJ	ADJACENT	MCA	MINIMUM CIRCUIT AMPS
ADF	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFS	ABOVE FINISHED GRADE	MCC	MOTOR CONTROL CENTER
AP	ACCESS POINT (WIRELESS DATA)	MCP	MOTOR CIRCUIT PROTECTION
AR	AS REQUIRED	MCP	MAIN DISTRIBUTION PANEL
ASC	AMPS SHORT CIRCUIT	MG	MOTOR GENERATOR
ATC	AUTOMATIC TRANSFER SWITCH	MH	MANHOLE
AV	AUDIO VISUAL	MIN	MINIMUM
AWG	AMERICAN WIRE GAGE	MLO	MAIN LUGS ONLY
BE	BUCK-BOOST TRANSFORMER	MOP	MINIMUM RECURRENT PROTECTION
BFF	BELOW FINISHED FLOOR	NFC	NATIONAL FIRE CODE
BFG	BELOW FINISHED GRADE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CA	CATEGORY	NIC	NOT IN CONTRACT
CATV	COMMUNITY ANTENNA TELEVISION	NL	NIGHT LIGHT
CB	CIRCUIT BREAKER	NO	NORMALLY OPEN
CCB	CUSTOM COLOR AS SELECTED BY ARCHITECT	NC	NOT TO SCALE
CCVC	CLOSED CIRCUIT TELEVISION CIRCUIT BREAKER	OC	ON CENTER
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OC	OVER CURRENT PROTECTION
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OEI	OWNER ELECTRONICS
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OFI	OWNER FURNISHED/ OWNER INSTALLED
CM	CONSTRUCTION MANAGER	OF/O	OWNER FURNISHED/ OWNER INSTALLED
CND	CONDUIT	OH DR	OVERHEAD (COILING)/DOOR OVERLOAD
CO	CONVENIENCE OUTLET	OL	OVERLOAD
CP	CONTRACTING OFFICER'S REPRESENTATIVE	OR	OVERHEAD
CP	CONTROL PANEL	PF	PUSHBUTTON
CTV	CABLE TELEVISION	PH	PHASE
CU	COPPER	PNL	PANEL
CSA	UNIT OF SOUND LEVEL DOUBLE POLE, DOUBLE THROW	PNM	PNEUM
DS	DISCONNECT SWITCH	PS	POWER SUPPLY
E	ENHANCED	PT	POTENTIAL TRANSFORMER
EA	EACH	PTZ	PAN/TILT/ZOOM
EM	EMERGENCY	QTY	QUANTITY
EMT	ELECTRICAL METALLIC TUBING	R	REMOVE
EPO	ELECTRIC NONMETALLIC TUBING	RCP	REFLECTED CEILING PLAN
EMP	EMERGENCY POWER OFF	RMC	RIGID METAL CONDUIT
EQUIP	EQUIPMENT	RNC	RIGID NONMETAL CONDUIT
ER	EQUIPMENT ROOM	RPM	REVOLUTIONS PER MINUTE
EX	EXISTING	RPP	RISER PATCH PANEL
FA	FURNITURE MOUNTED	RRA	REMOVE AND RELOCATE
F	FIRE ALARM	SCA	SHORT CIRCUIT AMPS
FCA	FIRE ALARM CONTROL PANEL	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
FMC	FLEXIBLE METAL CONDUIT	SFR	SQUARE FOOT (FEET)
FOP	FREIGHT ON BOARD	SEBA	STANDARD FINISH AS SELECTED BY ARCHITECT
FPP	FIBER PATCH PANEL	SPD	SURGE PROTECTIVE DEVICES
FVNR	FULL VOLTAGE NON-REVERSING SWITCHBOARD	SPOT	SINGLE POLE, DOUBLE THROW
FVR	FULL VOLTAGE REVERSING SWITCHBOARD	SWB	SWITCHBOARD
GEN	GENERATOR	SWGR	SWITCHGEAR
GFCI	GROUND FAULT INTERRUPTER	TL	TWIST LOCK
GFI	GROUND FAULT PROTECTION	TP	TELEPHONE POLE
GIG	GIGA HERTZ	TP	TWISTED PAIR
GND	GROUND	TR	TELECOMMUNICATIONS ROOM TELEVISION
HD	HEAVY DUTY	TTB	TELEPHONE TERMINAL BOARD
HID	HIGH INTENSITY DISCHARGE	TV	TELEVISION
HOA	HAND-OFF-AUTOMATIC	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
HP	HORSE POWER	UF	UNDERFLOOR
HPF	HIGH POWER FACTOR	UGND	UNDERGROUND
HPS	HIGH PRESSURE SODIUM	UPS	UNINTERRUPTIBLE POWER SUPPLY
HV	HIGH VOLTAGE	V	VOLTS
HWM	HORIZONTAL WIRE MANAGEMENT	VA	VOLT AMPERE
HZ	HERTZ	VFCVF	VARIABLE FREQUENCY MOTOR CONTROLLER
I/O	INPUT/OUTPUT	VVM	VERTICAL WIRE MANAGEMENT
I	ISOLATED GROUND	W	WITH
IMC	INTERMEDIATE METAL CONDUIT	W/O	WITHOUT
INIS	INSULATED ISOLATED	WP	WEATHERPROOF
J-BOX	JUNCTION BOX	WPP	WIRELESS PATCH PANEL
KV	KILOVOLT	XFMR	TRANSFORMER

**SYMBOLS LEGEND**

SYMBOL	DESCRIPTION
<b>LIGHTING</b>	
(W-5)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3E)	FIXTURE IDENTIFICATION: EMERGENCY LIGHTING FIXTURE WITH BATTERY PACK AND/OR GENERATOR AND/OR CENTRALIZED INVERTER AND/OR CENTRALIZED UPS CONNECTION AS INDICATED IN PLANS. (W-3E) INDICATES FIXTURE TYPE AS SCHEDULED.
↑	EGRESS DIRECTION ARROW (EXIT SIGNS).
⊗	EXIT SIGN: SINGLE FACE, CEILING MOUNTED
⊗	EXIT SIGN: SINGLE FACE, WALL MOUNTED
⊗	EXIT SIGN: DOUBLE FACE, CEILING MOUNTED
⊗	EXIT SIGN: DOUBLE FACE, WALL MOUNTED
<b>LIGHTING CONTROL</b>	
*	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
⊙	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
⊙	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
(P)	PHOTOCELL.
(P)	PHOTOCELL, WALL MOUNTED.
⊙	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
⊙	VACANCY SENSOR, DUAL TECHNOLOGY, WALL.
⊙	SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
⊙	SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
⊙	DIMMER SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
⊙	DIMMER SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
a,b	LOW VOLTAGE DIGITAL LIGHTING CONTROL SWITCH: LETTER "a" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)
<b>FIRE ALARM</b>	
(FAA)	FIRE ALARM ANNUNCIATOR PANEL.
(FACP)	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
(FATC)	FIRE ALARM TERMINAL CABINET: NAC, SLC, SPEAKER CIRCUITS, AMPLIFIERS, BATTERIES
(C)	AUTOMATIC DOOR CLOSERS: DOOR CLOSERS SHALL BE FURNISHED WITH DOOR HARDWARE AND CONNECTED BY FIRE ALARM INSTALLER.
(CM)	CONTROL MODULE.
(MM)	MONITOR MODULE.
(F)	FIRE ALARM MANUAL PULL STATION.
(R)	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
(FS)	WATER FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
(VS)	VALVE SUPERVISORY SWITCH: TAMPER SWITCH, TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
(PS)	PRESSURE SUPERVISORY SWITCH: PRESSURE SWITCHES SHALL BE PROVIDED AND INSTALLED BY FIRE SPRINKLER CONTRACTOR AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
(M)	MAGNETIC DOOR HOLDER.
(?)	DETECTOR, SMOKE.
(?)	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
(SD)	SMOKE DAMPER: 120V POWER FROM ELECTRICAL SYSTEM.
(FSD)	COMBINATION FIRE/SMOKE DAMPER: 120V POWER FROM ELECTRICAL SYSTEM.
(75)	STROBE, WALL MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
(75)	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
(75)	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
(75)	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
(75)	ALARM, HORN, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
(75)	SPEAKER/STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
(75)	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
<b>TV DISTRIBUTION</b>	
(TR)	TV DISTRIBUTION CABLE, INDIVIDUAL DROPS.
(TR)	TV DISTRIBUTION CABLE, TRUNK.
(CMB)	COMBINER.
(DC)	DIRECTIONAL COUPLER.
(DA)	DISTRIBUTION AMPLIFIER (ONE-LINE DIAGRAM).
(SPL)	SPLITTER (ONE-LINE DIAGRAM).
(O)	TV OUTLET.
(SAT)	SATELLITE ANTENNA.
(T)	TV ANTENNA (ONE-LINE DIAGRAM).
(-TW-)	TERMINATOR, 75 OHM (TV DISTRIBUTION).

**SYMBOLS LEGEND**

SYMBOL	DESCRIPTION
<b>ELECTRICAL POWER AND DISTRIBUTION</b>	
(F)	FUSE WITH RATING (ONE-LINE DIAGRAM).
(F)	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
(F)	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
(F)	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
(F)	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
(MCP)	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
(#AF #AT)	CIRCUIT BREAKER, ADJUSTABLE TRIP. "225AF" REPRESENTS THE RATING AND "150AT" REPRESENTS THE TRIP SETTING. (ONE-LINE DIAGRAM).
(F)	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
(F)	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
(M)	MOTOR.
**IDPHA*	DISTRIBUTION PANEL BOARD, MOTOR CONTROL CENTER, PLUG-IN BUSWAY, MEDIUM VOLTAGE SWITCHBOARD (ONE-LINE DIAGRAM).
(1H)	PANELBOARD (ONE-LINE DIAGRAM).
(225/3 1H)	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
(225/3 1H)	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
(225/3 1H)	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
(225/3 1H)	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
(225/3 1H)	PANELBOARD WITH CIRCUIT BREAKER AND SUB FEED LUGS (ONE-LINE DIAGRAM).
(CT)	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
(TS)	TRANSFER SWITCH (ONE-LINE DIAGRAM).
(DMM)	DIGITAL MULTIMETER (ONE-LINE DIAGRAM).
(EG)	EARTH GROUND (ONE-LINE DIAGRAM).
(SE)	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
(G)	GENERATOR, ANNUNCIATOR (ONE-LINE DIAGRAM).
(G)	PUSH BUTTON, REMOTE EMERGENCY STOP.
(G)	GENERATOR, POWER (ONE-LINE DIAGRAM).
(K)	KIRK-KEY MECHANICAL INTERLOCK (ONE-LINE DIAGRAM).
(M)	METER.
(F)	DISCONNECT SWITCH, FUSED.
(F)	DISCONNECT SWITCH, UNFUSED.
(S)	STARTER, COMBINATION WITH DISCONNECT SWITCH.
(S)	STARTER OR MOTOR CONTROLLER.
(PB)	PUSHBUTTON.
(M)	PUSHBUTTONS, MOTOR CONTROL.
(M)	PANELBOARD CABINET, FLUSH MOUNTED.
(M)	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
(M)	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
(DPW)	DISTRIBUTION PANEL OR SWITCHBOARD.
(LP)	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
(SST)	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
(T)	TRANSFORMER (SEE ONE-LINE FOR SIZE)

**SYMBOLS LEGEND**

SYMBOL	DESCRIPTION
<b>WIRING DEVICES</b>	
(R)	RECEPTACLE, DUPLEX: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
(R)	RECEPTACLE, DUPLEX, HOSPITAL GRADE: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
(R)	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
(R)	RECEPTACLE, SPECIAL PURPOSE: PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
(R)	RECEPTACLE, SPECIAL PURPOSE ON EMERGENCY POWER: PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
(R)	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
(FBB)	FLUSH FLOOR BOX. "IF" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
(S)	SWITCH, DIMMER.
(S)	SWITCH, SINGLE POLE ("X" INDICATES FIXTURES CONTROLLED).
(S)	SWITCH, DOUBLE POLE ("X" INDICATES FIXTURES CONTROLLED).
(S)	SWITCH, THREE-WAY ("X" INDICATES FIXTURES CONTROLLED).
(S)	SWITCH, FOUR-WAY ("X" INDICATES FIXTURES CONTROLLED).
(R)	RECEPTACLE, DUPLEX, TAMPER RESISTANT: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
(R)	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
(R)	RECEPTACLE, SINGLE PLEX, WITH USB OUTLET
<b>NURSE CALL</b>	
(J)	JUNCTION BOX
(C)	CORRIDOR LIGHT.
(B)	BATHROOM PULL CORD STATION.
(D)	DUTY STATION.
(E)	EMERGENCY ASSISTANCE CALL STATION.
(E) CB	EMERGENCY ASSISTANCE CODE BLUE CALL STATION.
(P)	PATIENT STATION.
(S)	STAFF STATION.
(NCM)	TOUCH SCREEN NURSE CALL MASTER STATION.
(ZLC)	ZONE LIGHT CONTROLLER.
<b>SECURITY</b>	
(ACC)	SECURITY CABLE. SEE EQUIPMENT SCHEDULE FOR CABLE TYPE.
(ACC)	ACCESS CONTROL HEADEND EQUIPMENT.
(CTR)	SECURITY CONTROL PANEL.
(SEC)	INTRUSION DETECTION HEADEND EQUIPMENT.
(#1)	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
(CR)	CARD READER.
(KCR)	KEYPAD/CARD READER COMBINATION.
(ER)	EXIT REQUEST.
(RL)	REMOTE DOOR RELEASE BUTTON.
(J)	SENSOR, GLASS BREAK.
(IC)	CONTROL STATION.
(IRU)	DUAL TECHNOLOGY PASSIVE INFRARED SENSOR AND ULTRASONIC MOTION DETECTOR.
(IR)	PASSIVE INFRARED SENSOR.
(P)	PANIC DURESS SWITCH.
(U)	ULTRASONIC MOTION DETECTOR.
(AP)	ANNUNCIATOR PANEL.
(MSI)	MASTER STATION, INTERCOM.

**SYMBOLS LEGEND**

SYMBOL	DESCRIPTION
<b>REFERENCE AND LINE SYMBOLS</b>	
(AS E-201)	DETAIL INDICATOR: AS INDICATES DETAIL NUMBER, E-201 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
(AS E-201)	ELEVATION OR SECTION INDICATOR, EXTERIOR: AS INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
(AS E-201)	ELEVATION OR SECTION INDICATOR, INTERIOR: AS INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
(R)	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.
(K)	KEYNOTE INDICATOR.
(R)	REVISION INDICATOR.
(CUT)	EQUIPMENT INDICATOR.
(X-X) XMDP	MECHANICAL EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "XMDP" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO, REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
(B)	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING
(B)	BREAK, ROUND
(M)	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
(M)	NEW LINE: MEDIUM LINE.
(H)	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
(T)	EXISTING TO REMAIN LINE: THIN LINE.
(D)	DEMOLITION LINE: DASHED, MEDIUM LINE
(P)	PROPERTY LINE: DASHED, WIDE LINE.
(L)	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
(XXX EFX)	ELECTRICAL EQUIPMENT INDICATOR. "XXX" INDICATES TYPE OF EQUIPMENT OR EQUIPMENT ID. "EF-X" IDENTIFIES MECHANICAL EQUIPMENT BEING SERVED. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
(X-X) ILA-3	EQUI

CLINIC/HOSPITAL - CABLE/OUTLET COLOR SCHEDULE	
COLOR	TYPE
BLUE	DATA
BLUE	IP SECURITY CAMERAS
YELLOW	WIRELESS

COPPER PATCH CORD SCHEDULE (CATEGORY 6A F/UTP CABLES W/RJ-45 CONNECTORS)			
LENGTH (FEET)	COLOR	QUANTITY	UNIT COST (EACH)
5'	BLUE	20% OF TOTAL PORTS IN TDR'S	
7'	BLUE	60% OF TOTAL PORTS IN TDR'S	
10'	BLUE	20% OF TOTAL PORTS IN TDR'S	

COPPER PATCH CORD SCHEDULE (CATEGORY 5E CABLES W/RJ-45 CONNECTORS)			
LENGTH (FEET)	COLOR	QUANTITY	UNIT COST (EACH)
5'	BLUE	10	
7'	BLUE	10	
10'	BLUE	10	

FIBER PATCH CORD SCHEDULE (SINGLE-MODE W/LC CONNECTORS)			
LENGTH (METER)	COLOR	QUANTITY	UNIT COST (EACH)
-	-	-	-
3	YELLOW	4	
5	YELLOW	4	

WIRELESS PATCH CORD PATCH CORD SCHEDULE (CATEGORY 6A F/UTP W RJ/45 CONNECTORS)			
LENGTH (METER)	COLOR	QUANTITY	UNIT COST (EACH)
7'	YELLOW	200% OF TOTAL PORTS IN TDR'S	

CLINIC/HOSPITAL - EQUIPMENT/CABLE LIST		
THE ITEMS INDICATED BELOW SHALL NOT BE CONSTRUED AS A "BILL OF MATERIALS". THIS LIST IDENTIFIES ITEMS OF SIGNIFICANCE USED DURING THE DESIGN OF THE CABLING INSTALLATION. WHERE THE ITEMS INDICATED ARE ONE PORTION OF AN ASSEMBLY, THE ENTIRE ASSEMBLY SHALL BE PROVIDED UNLESS SPECIFIED OTHERWISE. PROVIDE ALL MISCELLANEOUS HARDWARE AND SUPPORTS WHICH MAY NOT BE LISTED HERE. FOR A COMPLETE INSTALLATION, COMPARE CATALOG NUMBERS WITH DESCRIPTIONS AND NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO BID. IF CATALOG NUMBERS DO NOT MATCH DESCRIPTIONS, THE DESCRIPTIONS TAKE PRECEDENCE. PROVIDE COMPLETE SUBMITTAL FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR CABLE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
SYMBOL	ITEM DESCRIPTION	ACCEPTABLE TYPES
	STATION CABLE, DATA - CATEGORY 6A F/UTP RISER, BLUE, DATA	SIEMON 9A6R4-A5-06-R1A
	STATION CABLE, DATA - CATEGORY 6A F/UTP RISER, YELLOW, WIRELESS DATA	SIEMON 9A6R4-A5-05-R1A
	25 PAIR CATEGORY 3 RISER CABLE, GRAY	GENERAL CABLE
	FIBER OPTIC CABLE, SINGLEMODE, 24 STRAND, ARMORED, RISER CABLE, YELLOW	SIEMON 9B6R04L-E205A
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	SIEMON 10GMX-FPS04-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON 26A-S06
	BLANK INSERT - WHITE	SIEMON MX-BL-02
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION (A=ABOVE COUNTER)	SIEMON 10GMX-FPS04-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON 26A-S06
	BLANK INSERT - WHITE	SIEMON MX-BL-02
	DATA OUTLET, SINGLE GANG FACEPLATE, WHITE, 4 POSITION	SIEMON 10GMX-FPS04-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON 26A-S06
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	SIEMON MX-SM22-02
	CATEGORY 6A JACK - DATA, YELLOW	SIEMON 26A-S05
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 1 POSITION	SIEMON MX-SM21-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON 26A-S06
	DATA OUTLET, SURFACE MOUNT BOX, WHITE, 2 POSITION	SIEMON MX-SM22-02
	CATEGORY 6A JACK - DATA, BLUE	SIEMON 26A-S06
	48 PORT, 1RU ANGLED PATCH PANEL, WITH OUTLETS	SIEMON 26AS-PA-48
	BLANK PATCH PANEL, 1RU ANGLED	SIEMON PNL-BLNKA-1
	24 PORT, 1RU FLAT PATCH PANEL, WITH OUTLETS	SIEMON UP5-F2-24K-RS
	WIRING BLOCK, COPPER, S110, WALL MOUNT, 50 PAIR, LEGS, NO COVER	S110AW1-50
	FIBER PATCH PANEL, LIGHTVERSE, 2RU	SIEMON LVA-2L4MD-P01A
	SIX POSITION, 12 STRAND, FIBER SPLICE MODULE, LC, SINGLE-MODE	SIEMON LV512LSJURUBA1A
	BLANK ADAPTER PLATE, LIGHTVERSE, BLACK	SIEMON LVA-BLANK-01A
	FIBER PATCH PANEL, WALL MOUNTED	SIEMON SWIC3G-CC-01
	SIX POSITION FIBER ADAPTER PANEL, ST	SIEMON RIC-F-LC12-01C
	BLANK ADAPTER PLATE	SIEMON RIC-F-BLNK-01
	HORIZONTAL WIRE MANAGERS, 4RU	PANDUIT NCMHAEF4
	VERTICAL WIRE MANAGERS, 10" WIDTH, DOUBLE SIDED, BLACK, 8"	CHATS WORTH 40096-715
	EQUIPMENT RACK 19" x 8", 52 RU, BLACK	CHATS WORTH 55053-715
	CABLE RUNWAY - 24", BLACK WITH ALL REQUIRED MOUNTING ACCESSORIES	CHATS WORTH 10250-724
	CABLE RUNWAY - 18", BLACK WITH ALL REQUIRED MOUNTING ACCESSORIES	CHATS WORTH 10250-718
	BUTT SPLICE KIT, BLACK	CHATS WORTH 11301-701
	JUNCTION SPLICE KIT, BLACK	CHATS WORTH 11302-701
	FOOT KIT, BLACK	CHATS WORTH 11309-701
	6" CHANNEL RACK TO RUNWAY, BLACK	CHATS WORTH 12408-724
	TRIANGLE BRACKETS, BLACK	CHATS WORTH 11746-724
	END CLOSING KIT, CABLE RUNWAY, BLACK	CHATS WORTH 11700-724
	WALL ANGLE SUPPORT KIT, CABLE RUNWAY, BLACK	CHATS WORTH 11421-724
	CABLE RUNWAY ELEVATION KIT, 6"	CHATS WORTH 10506-706
	CABLE RUNWAY RADIUS DROP	CHATS WORTH 12100-712
	J-HOOK PATHWAY 4", THREE TIER	CADDY CAT64HPSWM3
	CABLE BASKET TRAY, GALVANIZED (REFER TO RACEWAY PLANS FOR CABLE TRAY SIZING)	CABL0FIL, LEGRAND, WBT, OR COPPER B-LINE
	PLYWOOD BACKBOARD, 3/4"x4"x8", GRADE AC, FIRE-TREATED & PAINTED WHITE (MOUNT AT 6" AFF)	-
	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR	-
	TELECOMMUNICATIONS GROUNDING BUS BAR	-

NOTE: ALL RACKS, LADDER, PATCH PANELS AND ACCESSORIES SHALL BE BLACK IN COLOR.

## CLINIC/HOSPITAL - GENERAL PROJECT NOTES

- UNLESS OTHERWISE NOTED, INSTALL ALL CABLE INSIDE RACEWAY SYSTEMS. WHERE RACEWAY SYSTEMS HAVE NOT BEEN PROVIDED OR SPECIFIED, INSTALL CABLE THROUGH THE SPECIFIED "CADDY" CLIPS AT THE MINIMUM INTERVALS IDENTIFIED IN THE SPECIFICATIONS. SUPPORT "CADDY" CLIPS DIRECTLY FROM THE BUILDING STRUCTURE, NOT FROM OTHER BUILDING SYSTEM SUPPORT WIRES OR CABLE.
- PROVIDE PLENUM RATED CABLE IN ALL AIR PLENUMS. IF A PLENUM RATED CABLE IS NOT SPECIFIED, PROVIDE THE PLENUM RATED EQUIVALENT TO THE SPECIFIED CABLE.
- LABEL ALL CABLE INSTALLED UNDER THIS CONTRACT REGARDLESS OF LENGTH.
- THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
- IF OUTLET IS TERMINATED IN CEILING SPACE, LABEL THE T-BAR GRID WITH THE OUTLET NUMBER FOR EASY LOCATION AND IDENTIFICATION.
- GROUND ALL EQUIPMENT RACKS INSTALLED UNDER THIS CONTRACT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- FOR EVERY CABLE PULL SPECIFIED, COIL 15' OF EXCESS CABLE AT THE STATION END FOR FUTURE USE. NEATLY COIL 15' ABOVE THE CEILING OR BELOW FLOOR WHERE APPLICABLE.
- PROVIDE THE QUANTITY OF PATCH PANELS REQUIRED +20% FOR THE TOTAL DATA OUTLETS SHOWN ON FLOOR PLANS FOR THE PARTICULAR LEVEL.
- RACK SPACE ALLOCATION SHOULD BE FOLLOWED PER DRAWINGS. IF YOU HAVE A SYSTEM THAT HAS NO RACK ALLOCATION PLEASE CALL BOE SAUBEDO AT 801-107-3805.
- COORDINATE WITH ALL SUBS TO ENSURE THAT ALL CABLES ARE PROTECTED FROM ANY DIRECT PAINT, OR INCIDENTAL OVERSPRAY.



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Salt Lake City, UT 84111  
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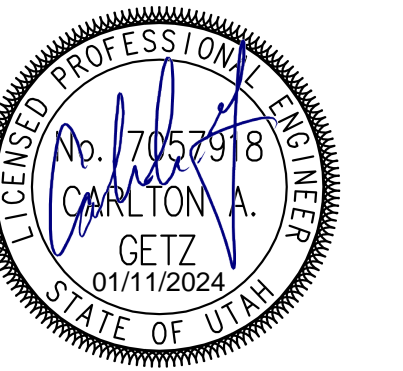
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TELECOM  
SCHEDULES  
AND NOTES

EE002

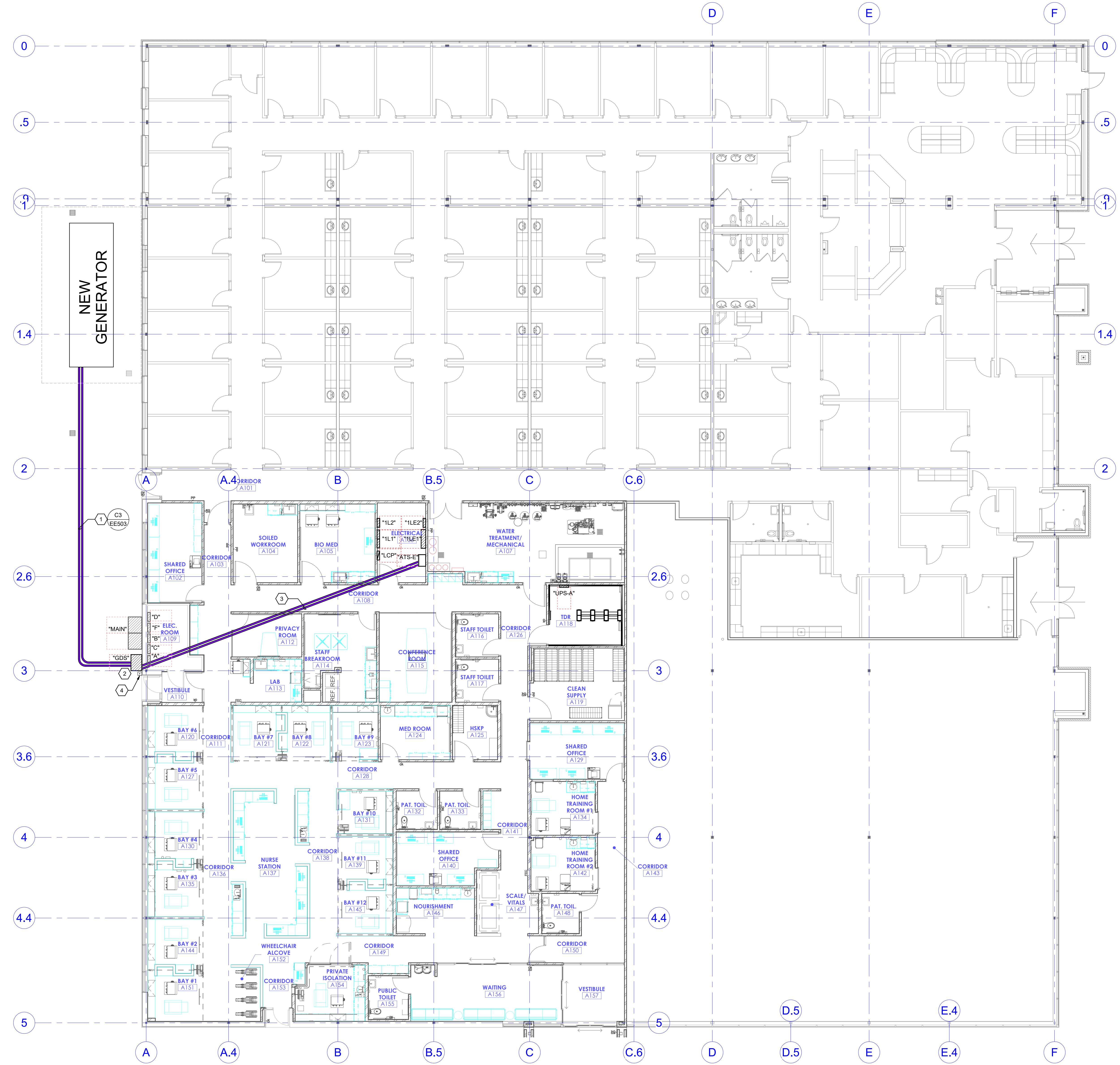
PRINT AND VIEW SHEET IN COLOR FOR CLARITY



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**

- 1 PROVIDE (2) 3" CONDUITS IN CONCRETE ENCASED DUCT BANK FROM GENERATOR DOCKING STATION "GDS" TO GENERATOR.
- 2 CONTRACTOR TO PROVIDE SEPARATE LINE ITEM PRICING FOR GENERATOR DOCKING STATION.
- 3 PROVIDE (2) 3" CONDUITS BELOW CONCRETE FLOOR SLAB FROM GENERATOR DOCKING STATION "GDS" TO AUTOMATIC TRANSFER SWITCH "ATS-E".
- 4 MOUNT REMOVE GENERATOR EMERGENCY SHUT DOWN BUTTON ON EXTERIOR ADJACENT TO "GDS". PROVIDE WEATHER RESISTANT COVER FOR SWITCH AND LABEL.



**1 LEVEL 1 OVERALL ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"

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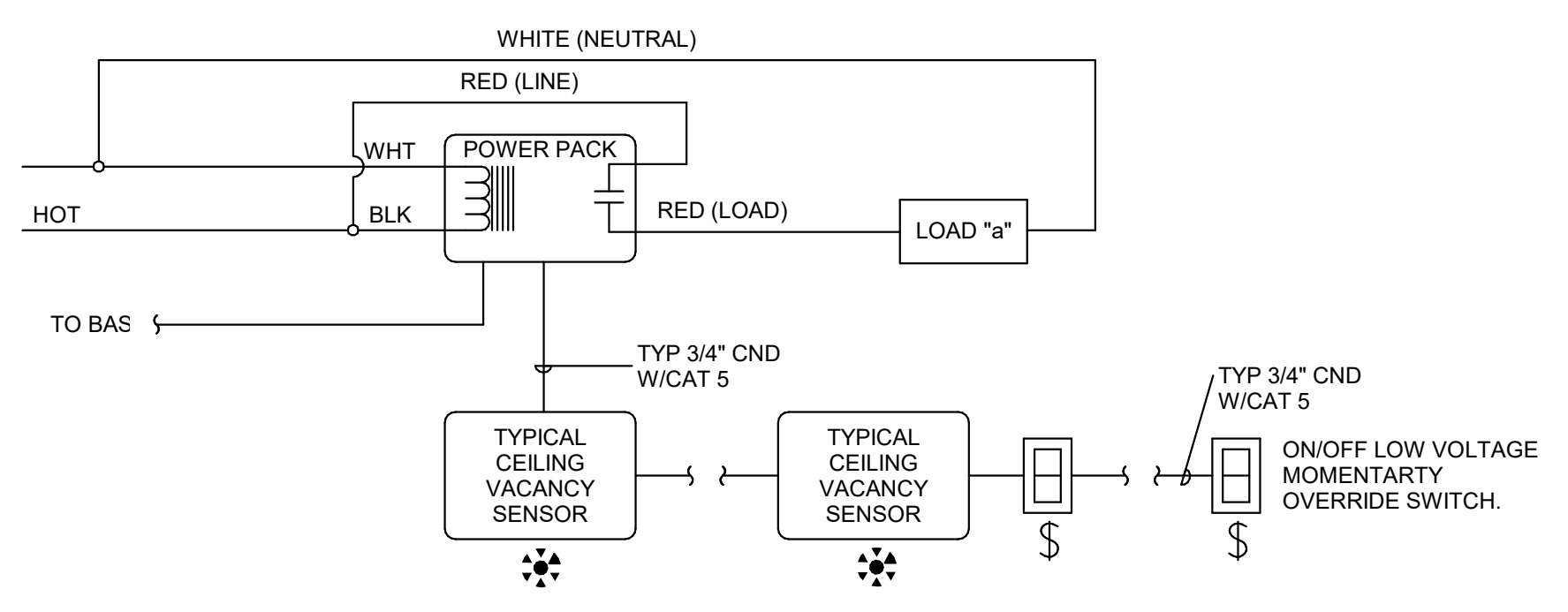
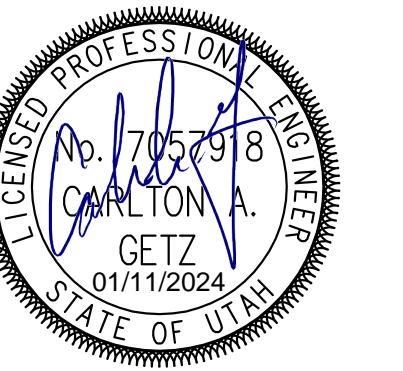
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**LEVEL 1  
OVERALL  
ELECTRICAL  
PLAN**

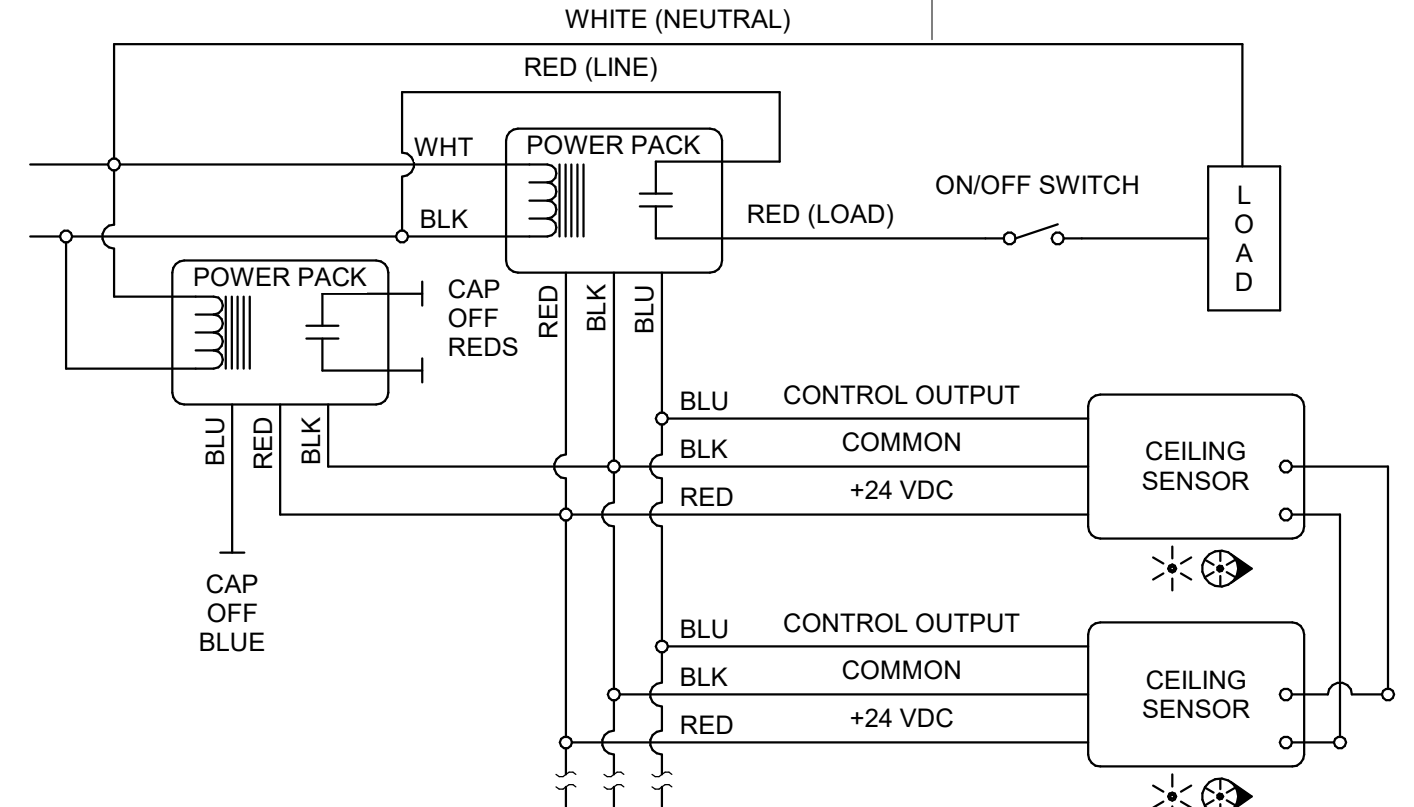
**EE101**

PRINT AND VIEW SHEET IN COLOR FOR CLARITY

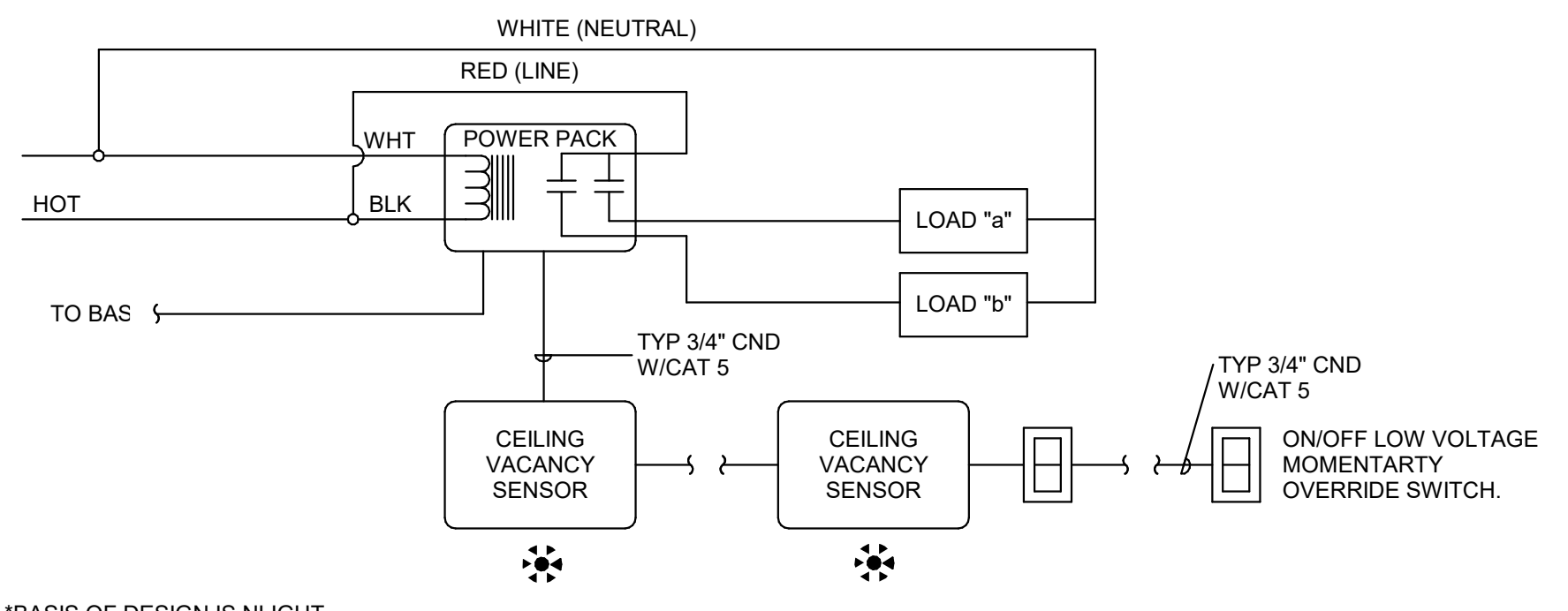
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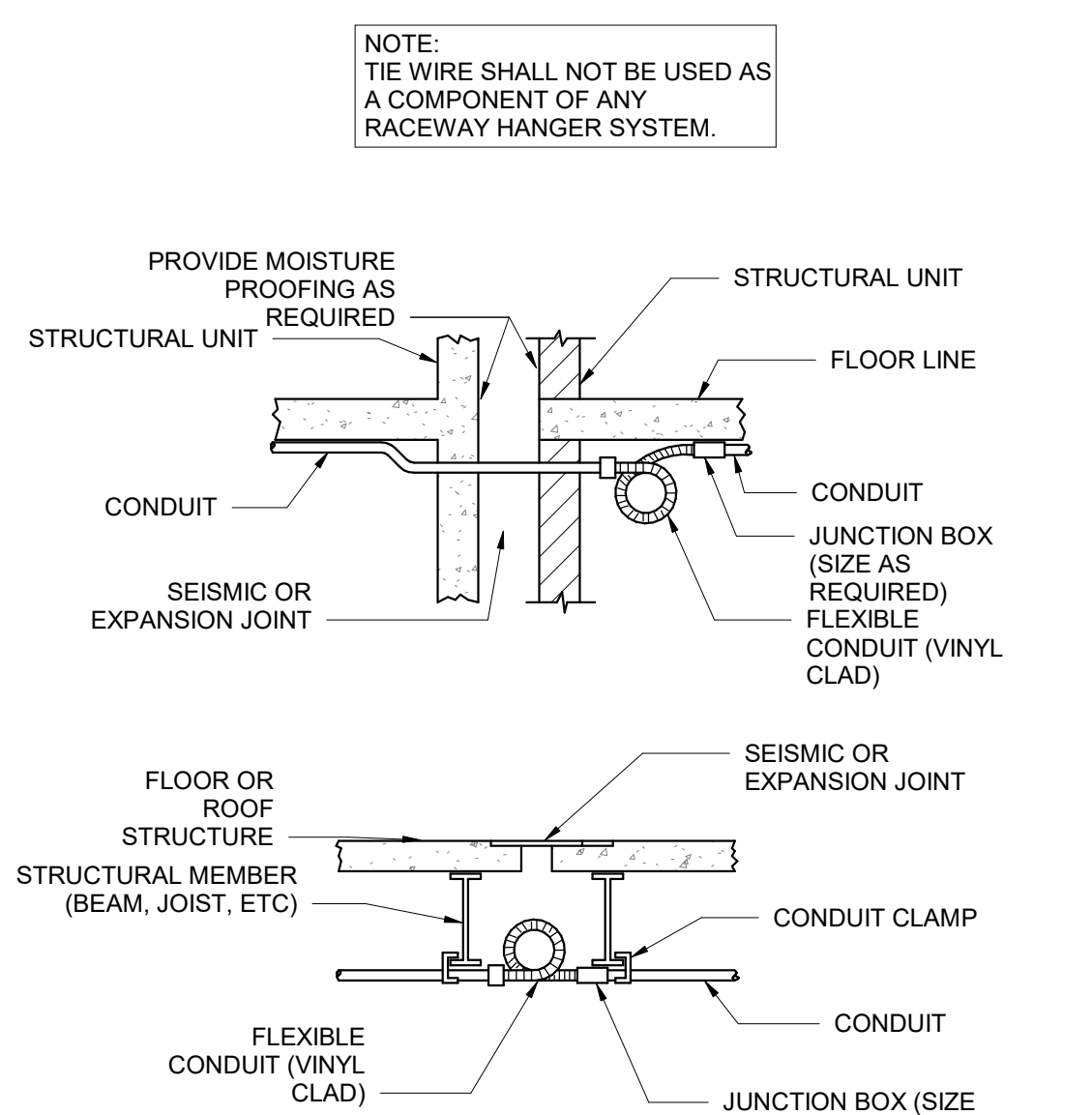
**E1** TYPICAL CEILING VACANCY SENSOR WIRING DIAGRAM  
SCALE: NTS



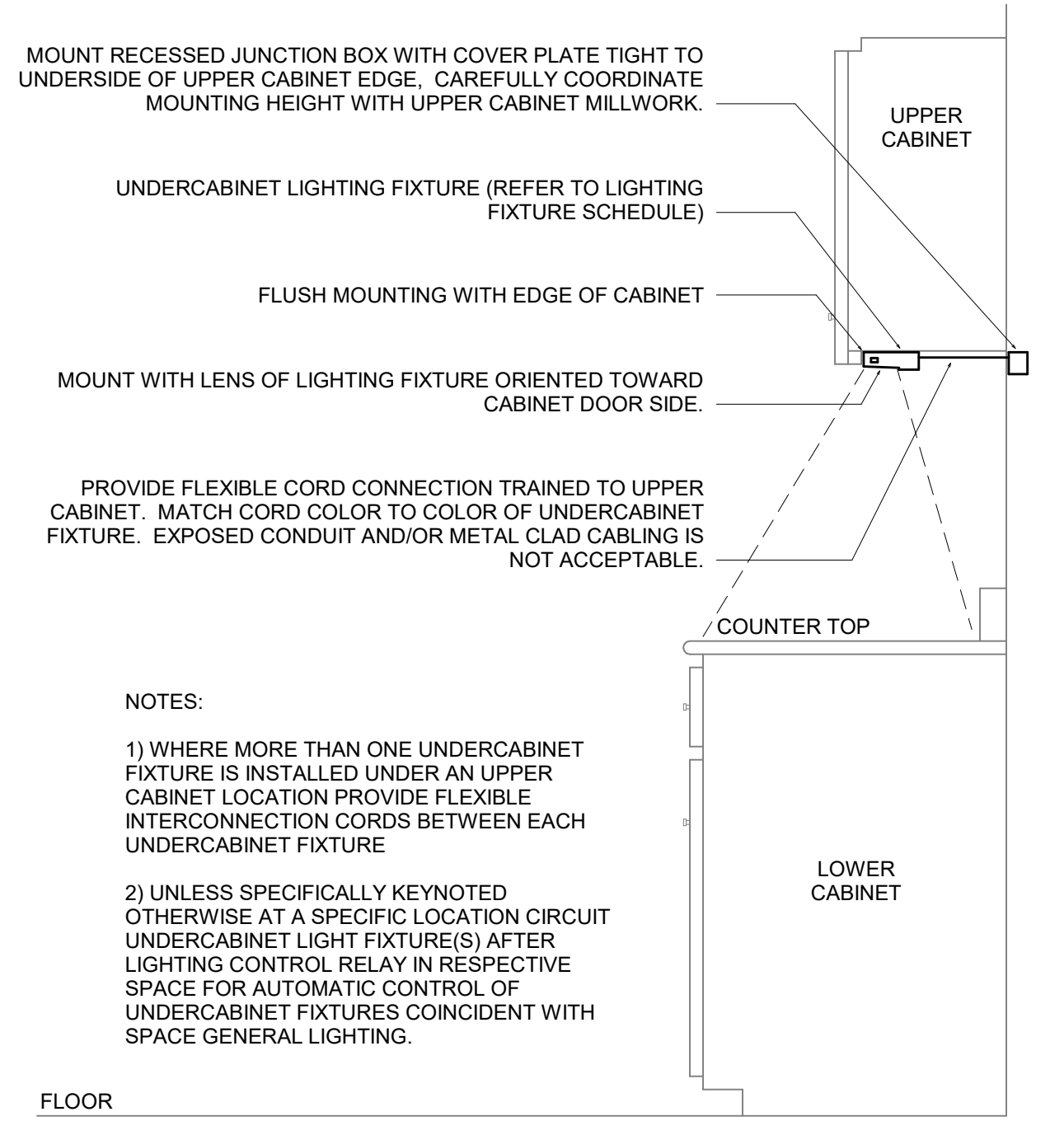
**E3** TYPICAL ROOM WITH MULTIPLE CEILING SENSORS  
SCALE: NTS



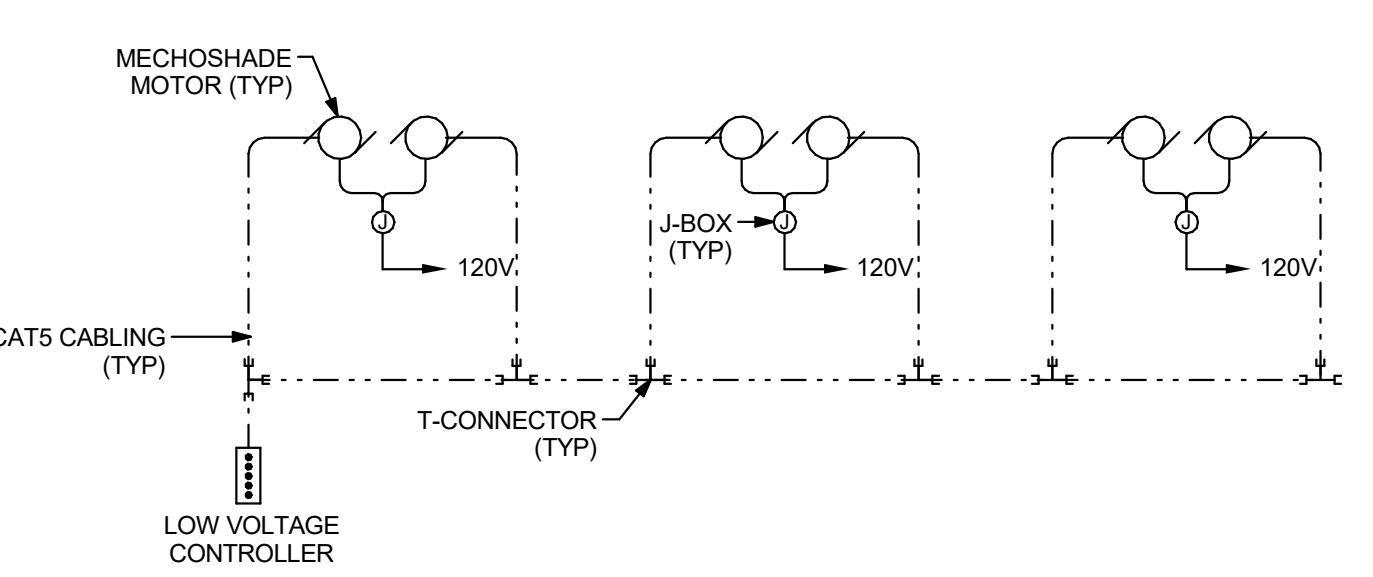
**C1** TYPICAL MULTIPLE ZONE VACANCY SENSOR WIRING DIAGRAM  
SCALE: NTS



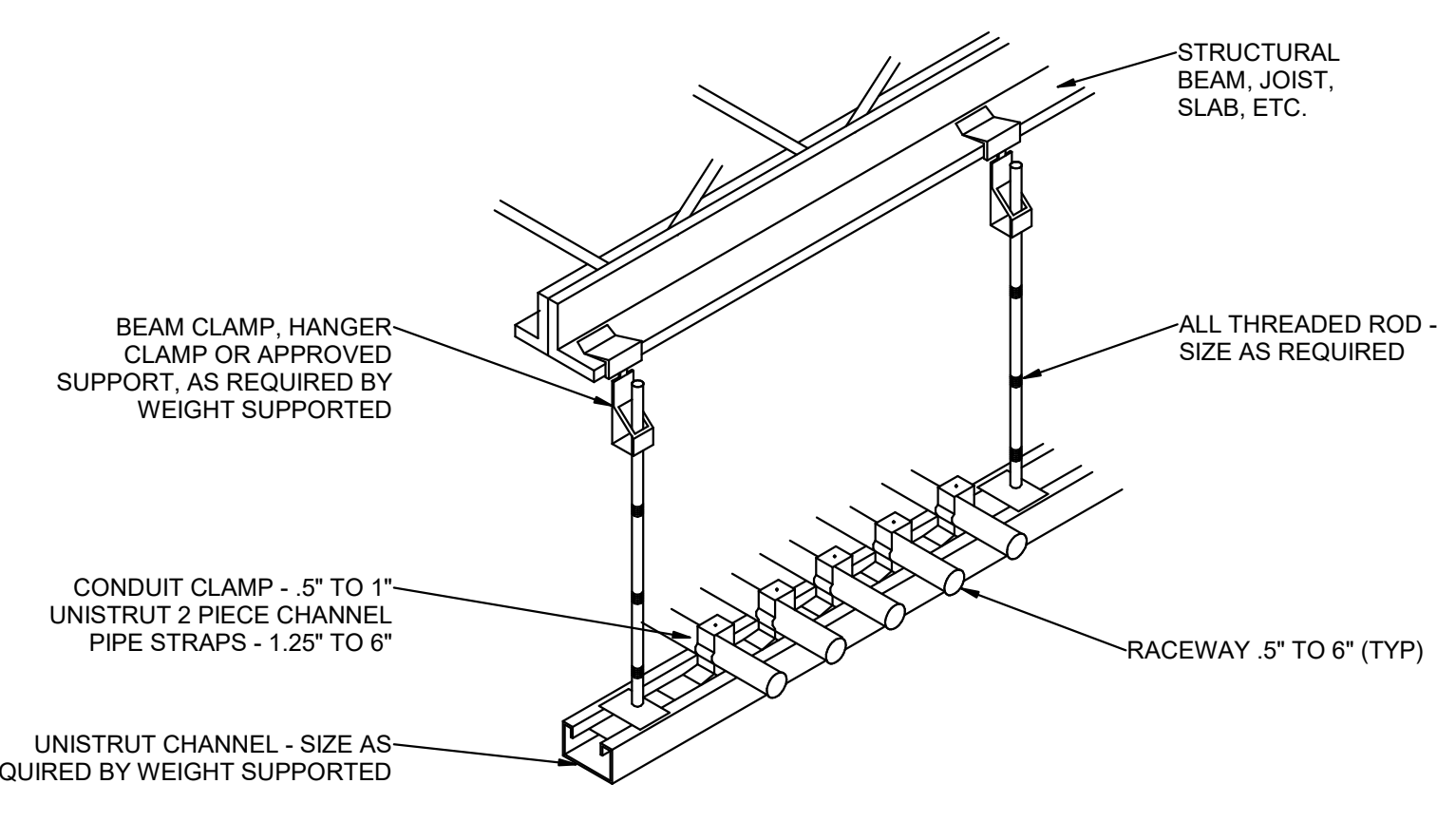
**C3** CONDUIT EXPANSION JOINT DETAIL  
SCALE: NTS



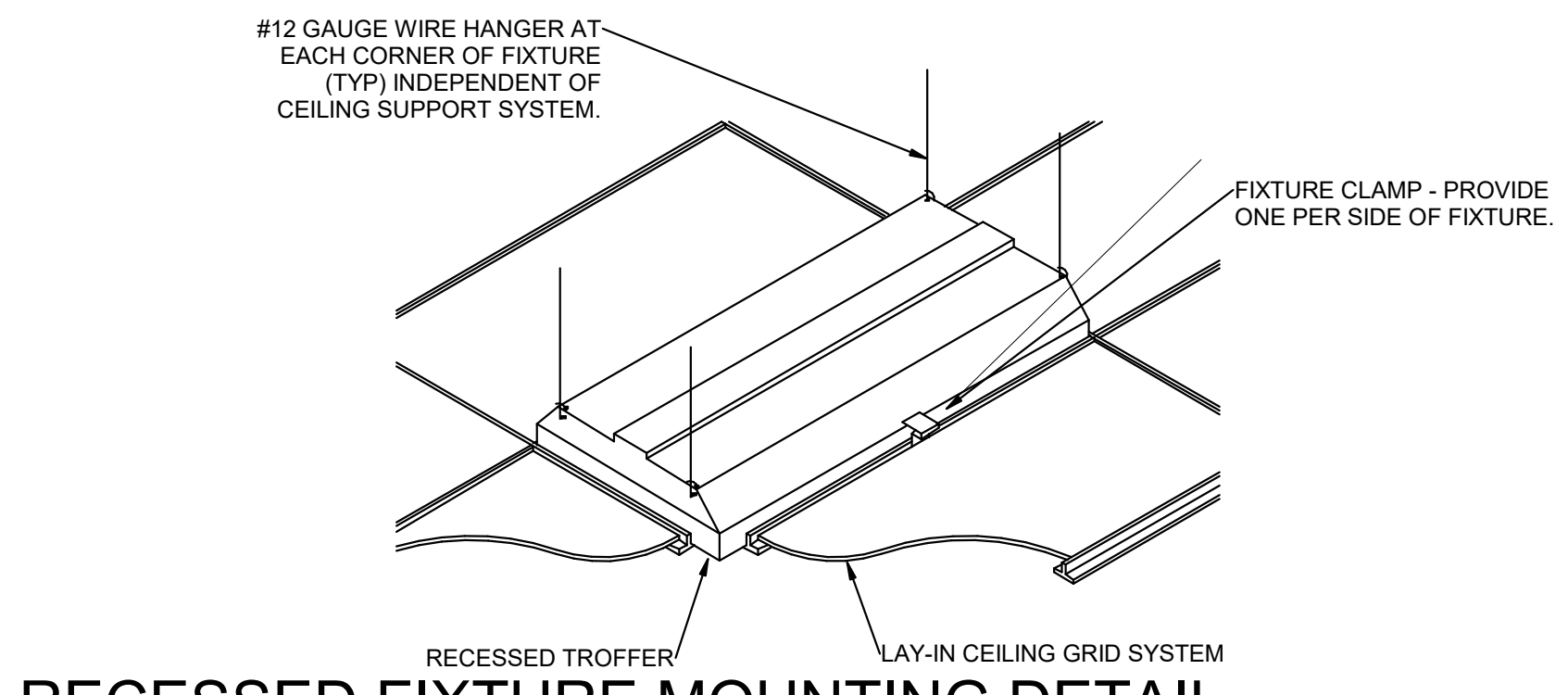
**C5** TYPICAL UNDERCABINET LIGHTING FIXTURE MOUNTING DETAIL  
SCALE: NTS



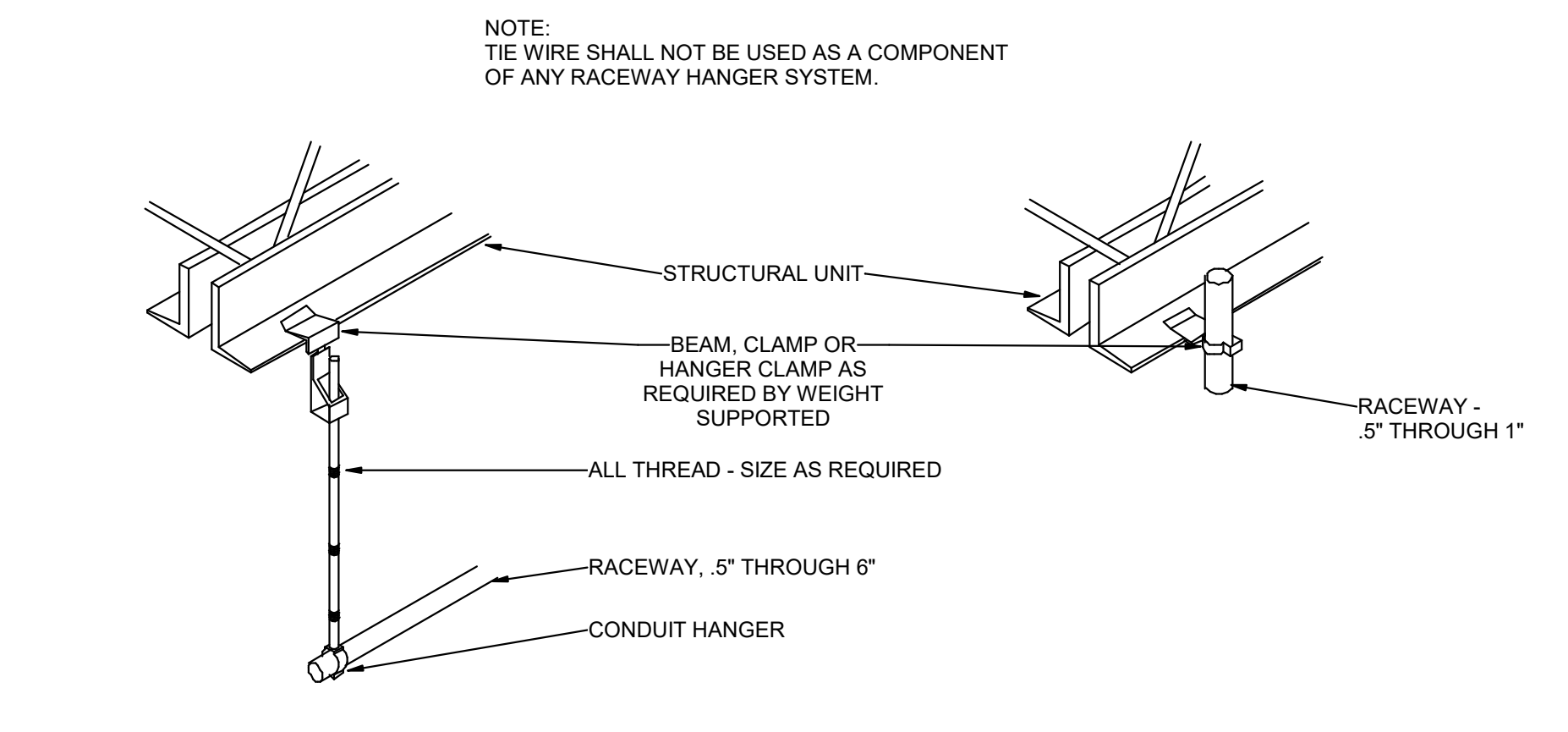
**B1** MECHOSHADE CONTROL DIAGRAM  
SCALE: NTS



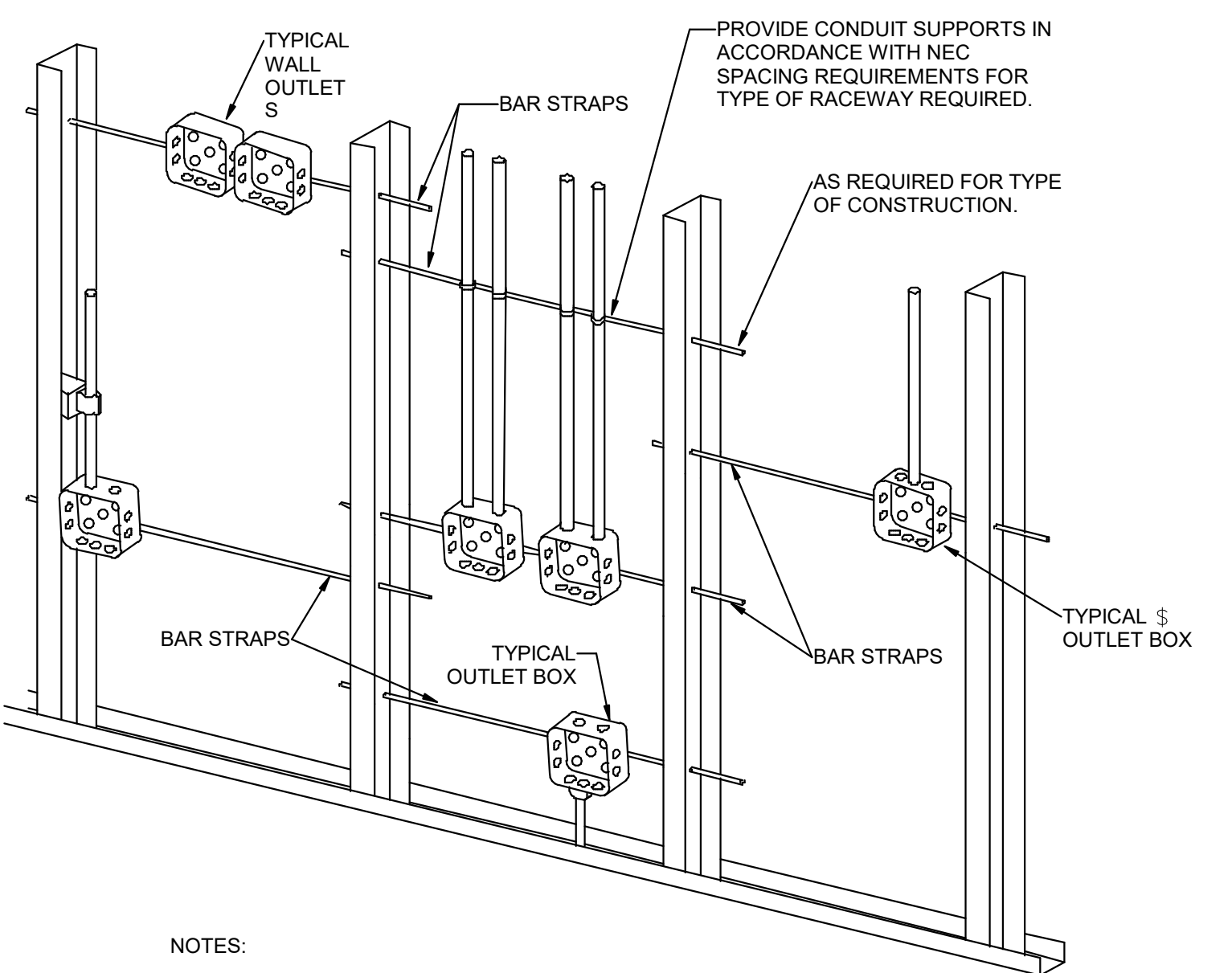
**B3** TYPICAL CONDUIT RACK DETAIL  
SCALE: NTS



**B5** RECESSED FIXTURE MOUNTING DETAIL  
SCALE: NTS



**A3** TYPICAL RACEWAY SUPPORT METHODS DETAIL  
SCALE: NTS



**A5** TYPICAL ROUGH-IN REQUIREMENTS DETAIL  
SCALE: NTS

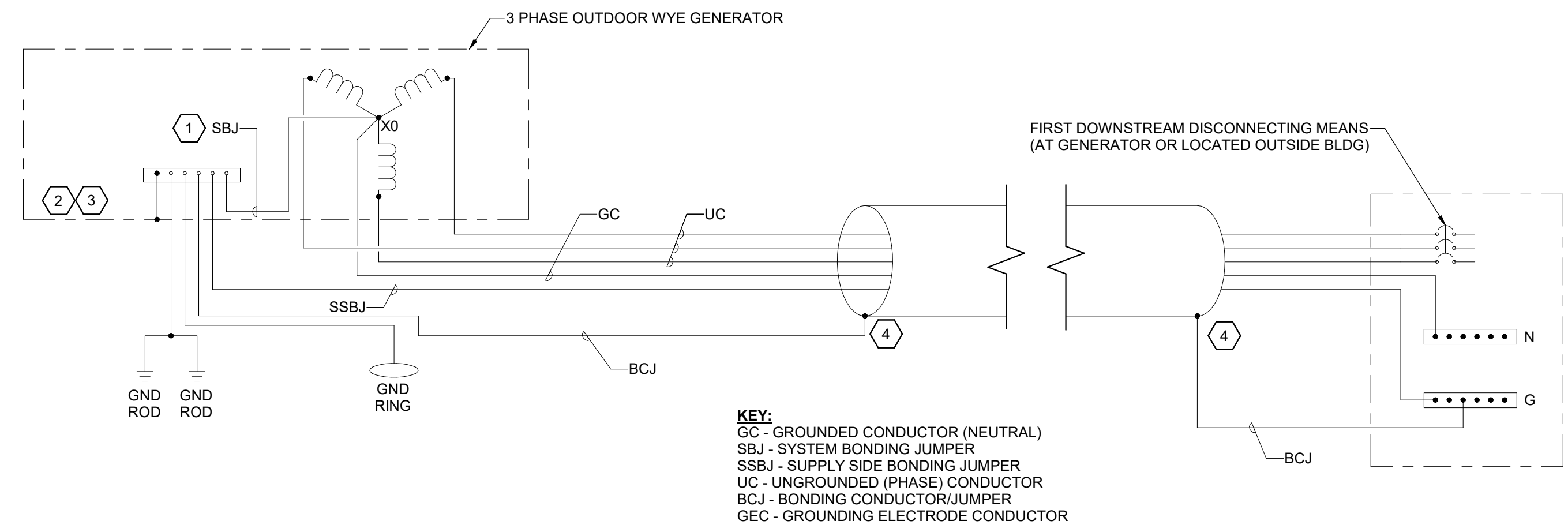
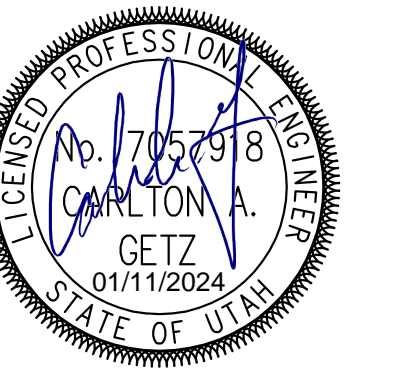
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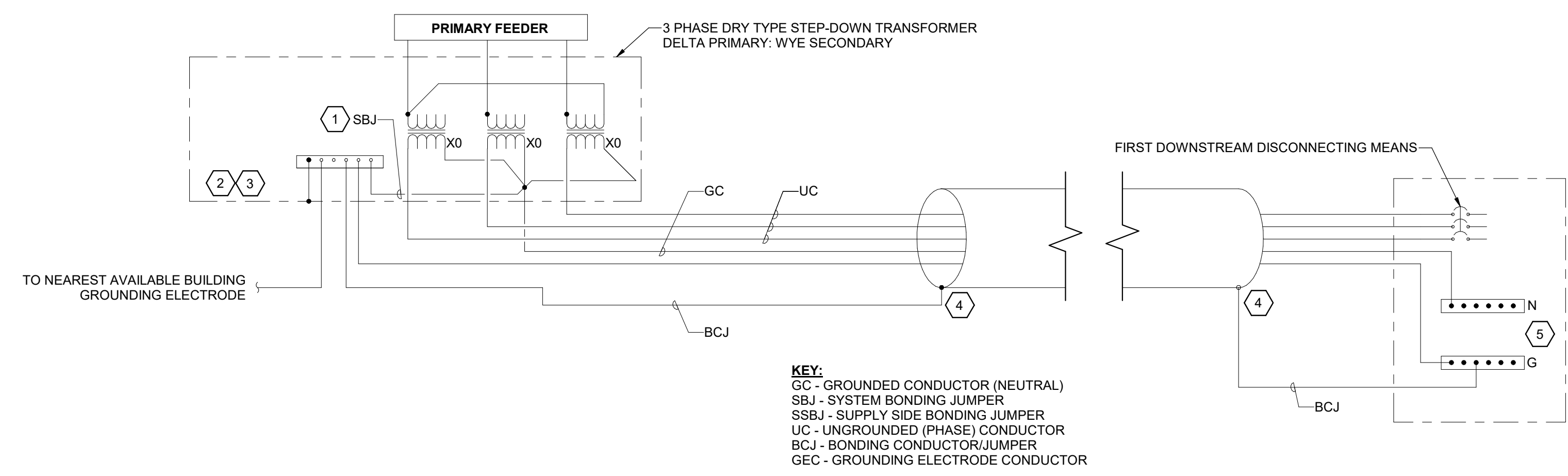
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DETAILS

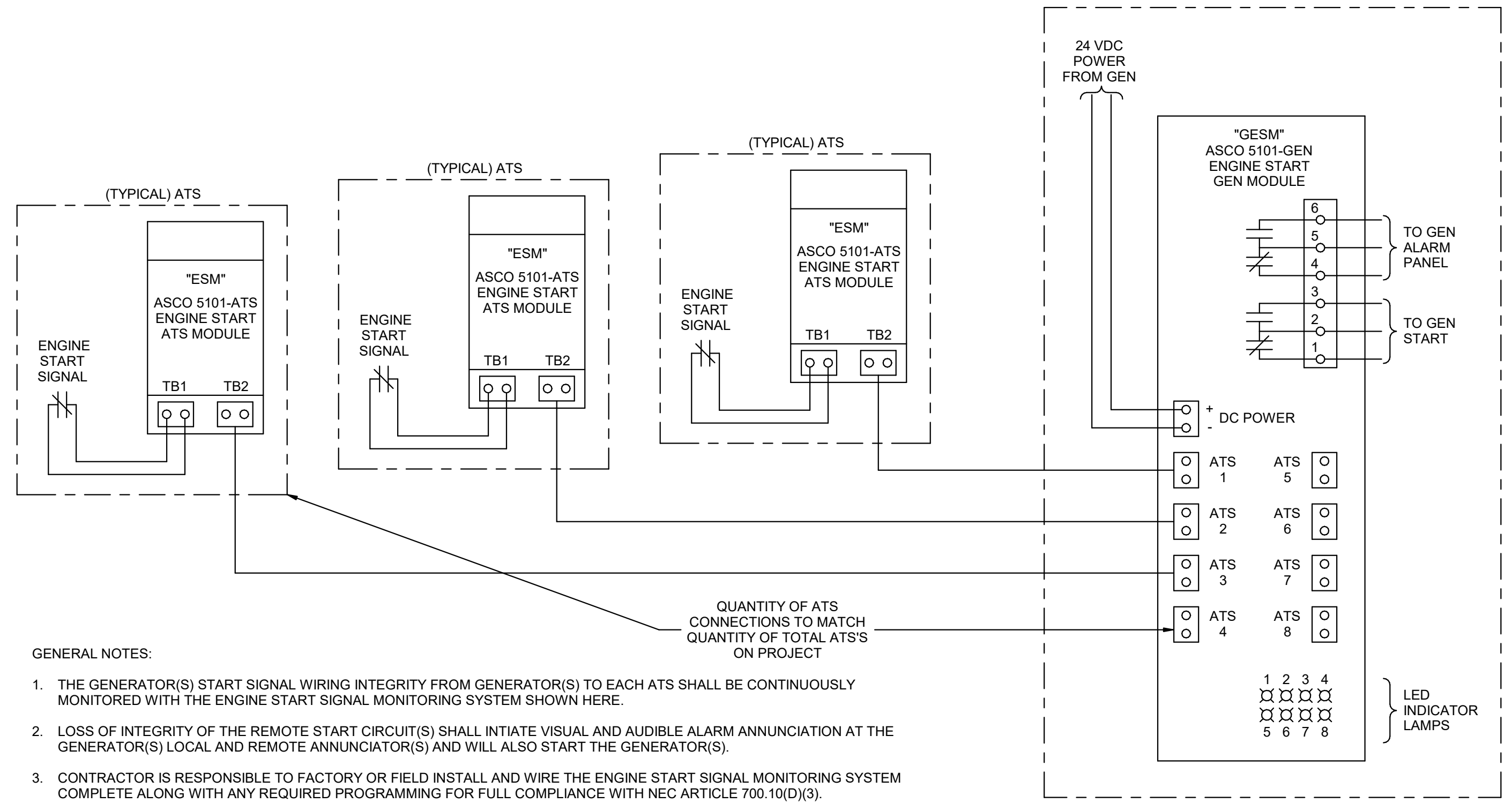
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**D1** TYPICAL GENERATOR SEPARATELY DERIVED SYSTEM GROUNDING AND BONDING DETAIL  
SCALE: NTS



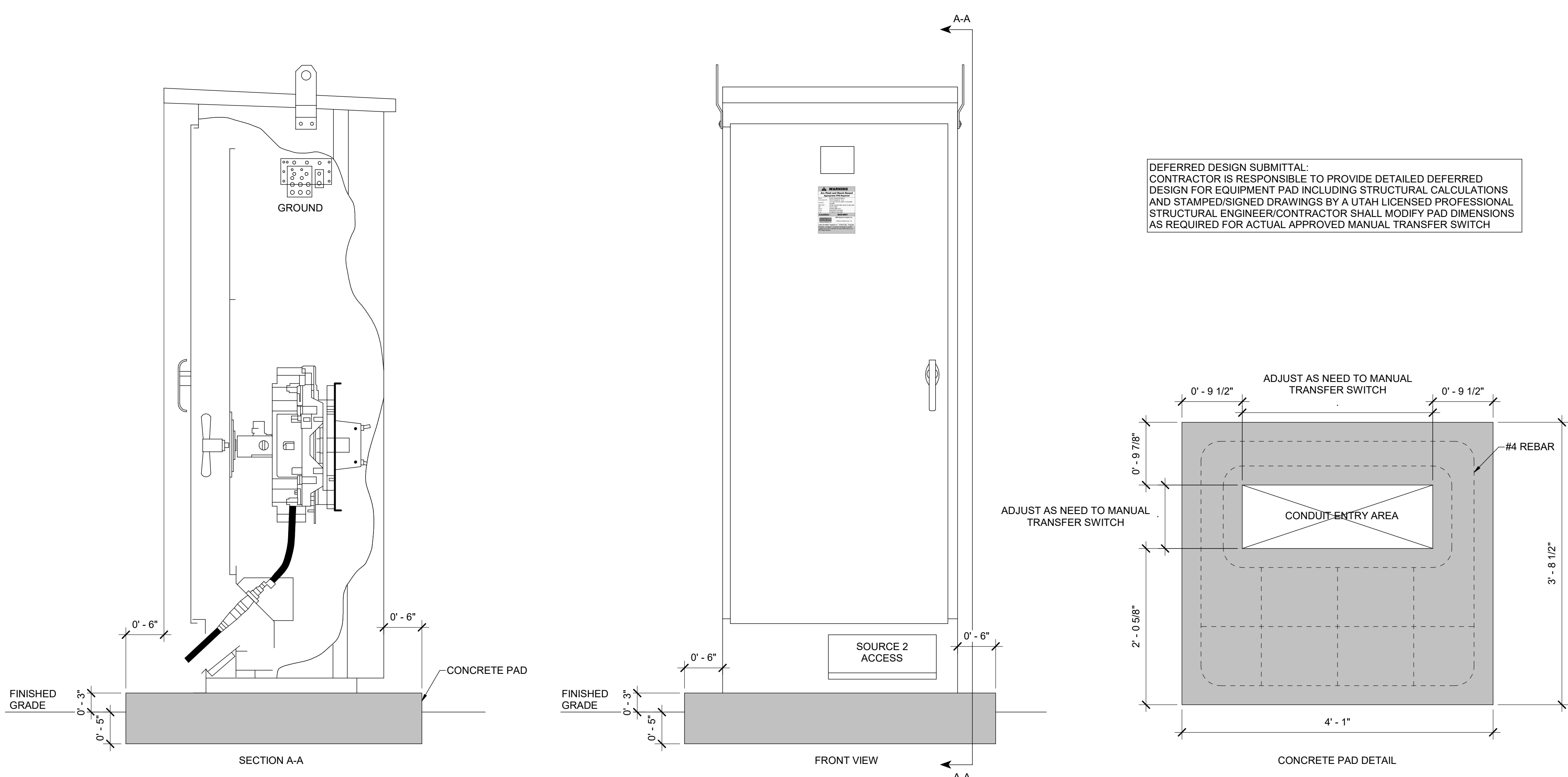
**C1** TYPICAL INDOOR STEP-DOWN TRANSFORMER SEPARATELY DERIVED SYSTEM GROUNDING AND BONDING DETAIL  
SCALE: 1/8" = 1'-0"



**GENERAL NOTES:**

- THE GENERATOR(S) START SIGNAL WIRING INTEGRITY FROM GENERATOR(S) TO EACH ATS SHALL BE CONTINUOUSLY MONITORED WITH THE ENGINE START SIGNAL MONITORING SYSTEM SHOWN HERE.
- LOSS OF INTEGRITY OF THE REMOTE START CIRCUIT(S) SHALL INITIATE VISUAL AND AUDIBLE ALARM ANNUNCIATION AT THE GENERATOR(S) LOCAL AND REMOTE ANNUNCIATOR(S) AND WILL ALSO START THE GENERATOR(S).
- CONTRACTOR IS RESPONSIBLE TO FACTORY OR FIELD INSTALL AND WIRE THE ENGINE START SIGNAL MONITORING SYSTEM COMPLETE ALONG WITH ANY REQUIRED PROGRAMMING FOR FULL COMPLIANCE WITH NEC ARTICLE 700.10(D)(3).

**C4** GENERATOR ENGINE START SIGNAL MONITORING SYSTEM WIRING DIAGRAM  
SCALE: 1/8" = 1'-0"



**A3** GENERATOR DOCKING STATION DETAIL  
SCALE: 1" = 1'-0"

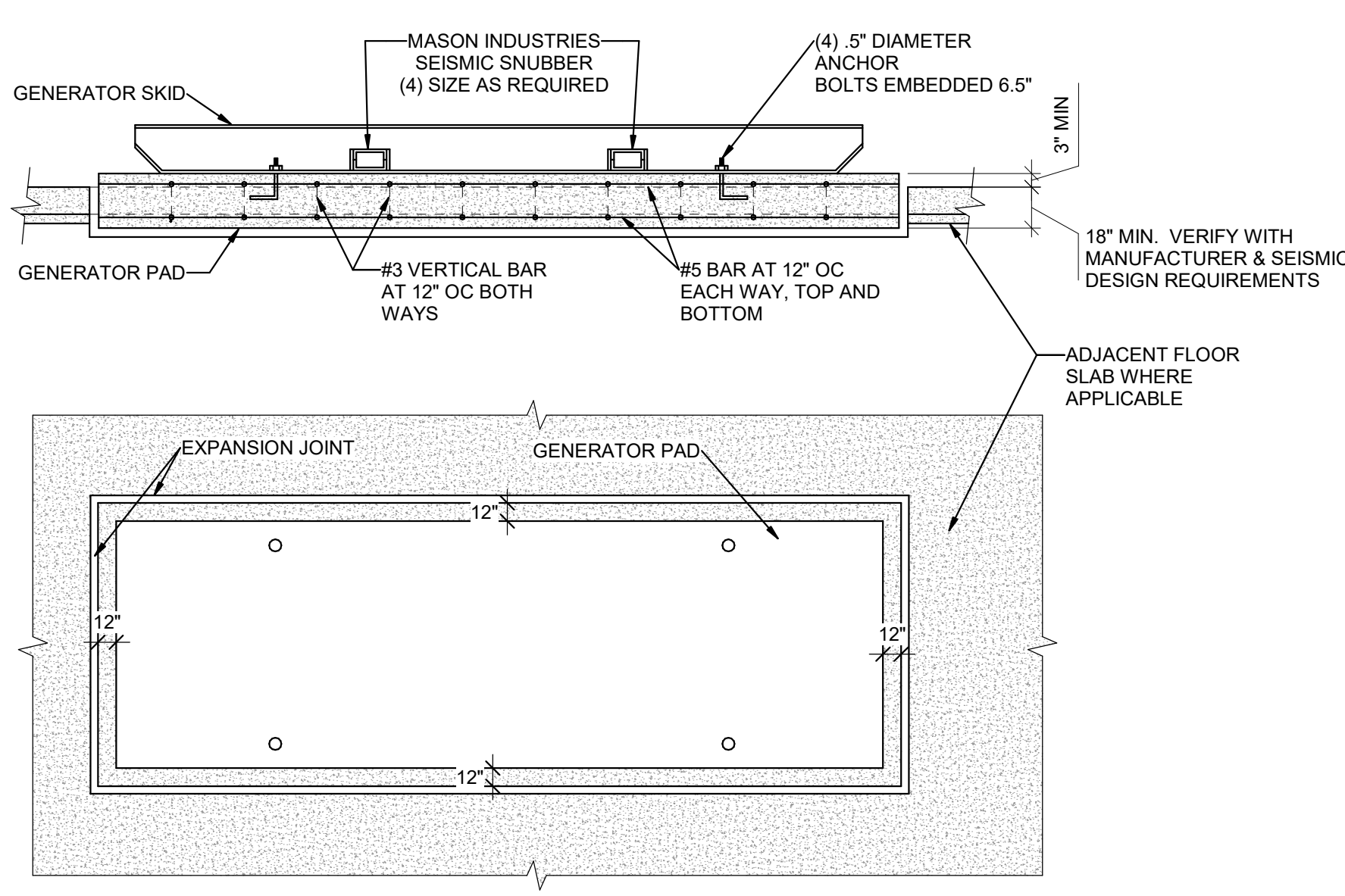
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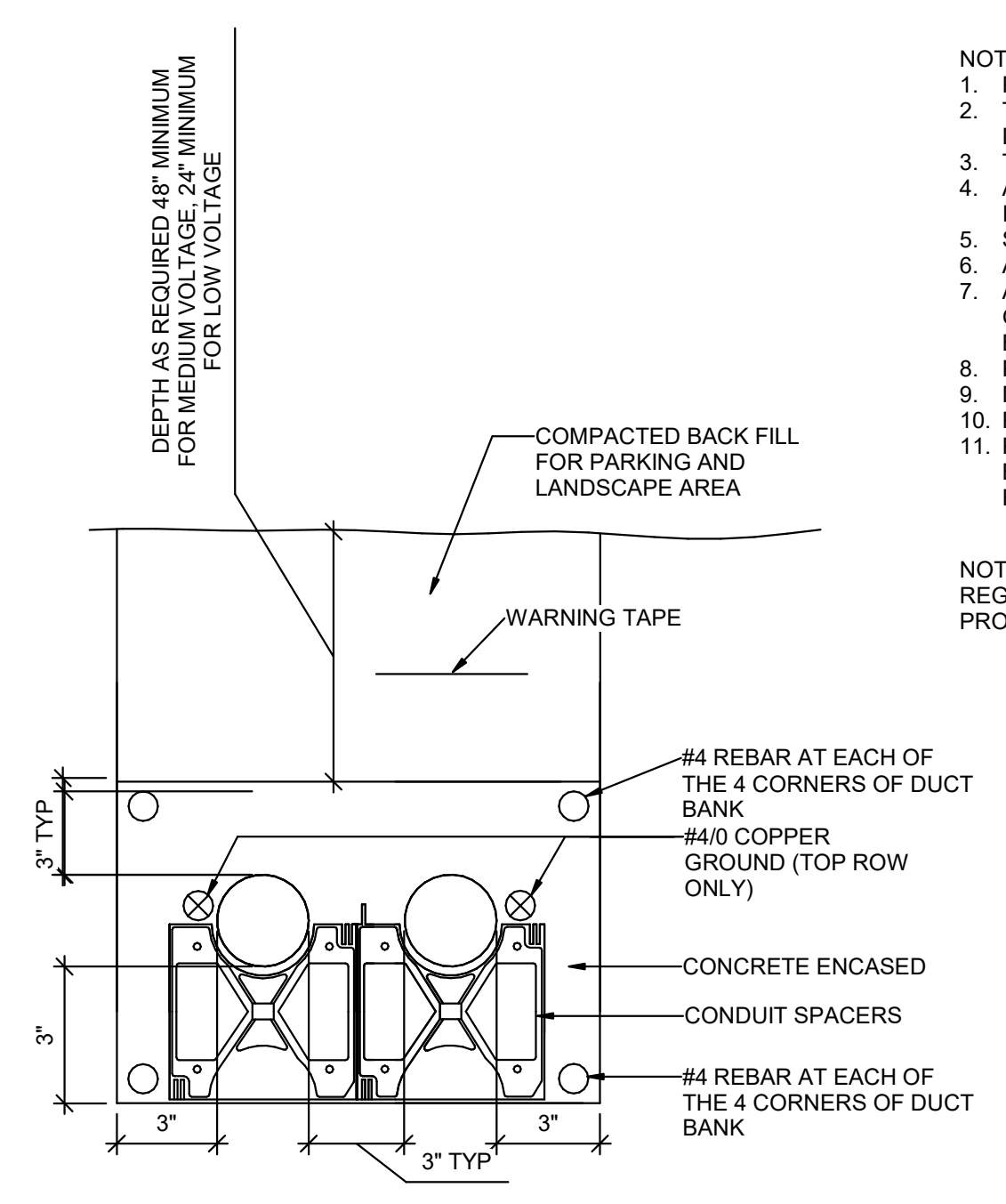
ELECTRICAL  
DETAILS

EE502



NOTE:  
ELECTRICAL CONTRACTOR SHALL FURNISH GENERAL CONTRACTOR WITH GENERATOR PAD DIMENSIONS SO THAT BLOCK WILL BE MADE FOR GENERATOR PAD. GENERATOR PAD SHALL BE SEPARATE FROM BUILDING FLOOR SLAB TO PROVIDE PROPER VIBRATION ISOLATION.

**C1** GENERATOR PAD DETAIL  
SCALE: NTS

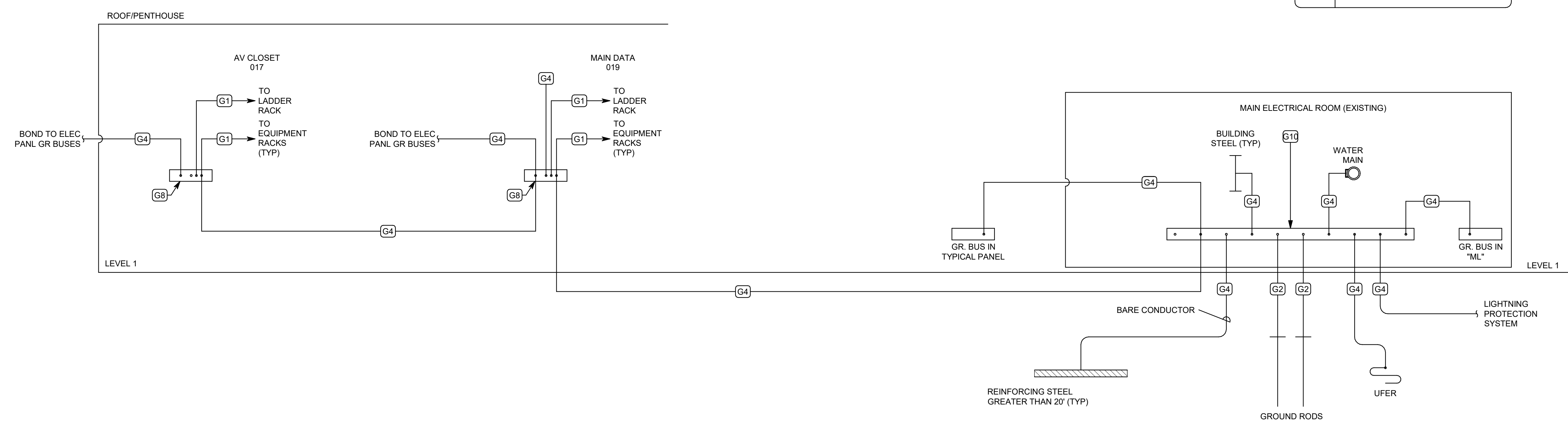


NOTES:  
1. PROVIDE SPACERS APPROVED FOR SIZE OF CONDUIT PROVIDED.  
2. THE LAST 10' OF DUCTS ENTERING MANHOLE, PULL BOX, TUNNEL OR DUCT TRENCH SHALL BE RMC WITH OZ/GEDNEY BELL ENDS.  
3. THE DUCT BUNDLES WITH PLASTIC TAPE. DO NOT USE METAL WIRE.  
4. ANCHOR DUCT BUNDLES DOWN WITH #3 OR LARGER REBAR DRIVEN INTO GROUND BETWEEN DUCTS.  
5. SEE DRAWINGS FOR SIZE AND NUMBER OF CONDUITS IN DUCT BANK.  
6. ALL BENDS SHALL BE LARGE RADIUS.  
7. ALL CONDUIT ABOVE GROUND, ALL BENDS AND FIRST 10' BELOW GROUND SHALL BE WRAPPED RMC. CONDUIT BELOW GROUND MAY BE PVC.  
8. PROVIDE POLYPROPYLENE PULL ROPE IN EMPTY CONDUITS.  
9. DUCT BANKS SHALL HAVE A MINIMUM SLOPE OF 4" PER 100 FEET.  
10. PROVIDE RED DYE IN CONCRETE.  
11. PROVIDE 2 EACH #4/0 COPPER GROUND CONDUCTORS IN DUCT BANK CONCRETE. BOND CONDUCTORS TO GROUND SYSTEM AT EACH END OF DUCT BANK.

NOTE: #4/0 COPPER GROUND (TOP ROW ONLY) AND NOTE #11 ARE IN REGARDS TO U OF U PROJECTS. REMOVE IF NOT REQUIRED FOR PROJECT.

**C3** 2X1 CONDUIT DUCT BANK DETAIL  
SCALE: NTS

GROUNDING SCHEDULE	
ALL CONDUCTORS ARE INSULATED UNLESS INDICATED OTHERWISE	
SYM	SIZE
G1	#6 CU
G2	#4 CU
G3	#1/0 CU
G4	#4/0 CU
G5	#250 KCMIL CU
G6	#350 KCMIL CU
G7	#500 KCMIL CU
G8	12"x2"x1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS IN ELECTRICAL & TELECOMM CLOSETS
G9	GROUNDING CONDUCTOR PER POWER ONE-LINE DIAGRAM
G10	48"x4"x1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS IN MAIN ELECTRICAL ROOM
G11	#250 KCMIL BARE CU BURIED 30" IN DIRECT CONTACT WITH EARTH, ENCRICLING THE DATA CENTER WITH GROUND RODS EVERY 30' ON CENTER.
GX	GROUNDING CONDUCTOR PER ONE-LINE DIAGRAM



**A2** GROUNDING RISER  
SCALE: 1/8" = 1'-0"

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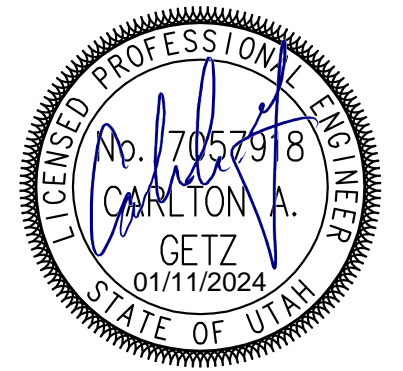
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ELECTRICAL  
DETAILS

EE503





<b>WARNING</b>	
<b>Arc Flash and Shock Hazard</b>	
<b>Appropriate PPE Required</b>	
40 in	Flash Hazard Boundary
4.5 cal/cm <sup>2</sup>	Flash Hazard at 18 in
Level 2	Arc-rated shirt & pants or arc-rated coverall
480 VAC	Shock Hazard when cover is removed
00	Glove Class
42 in	Limited Approach
12 in	Restricted Approach
1 in	Prohibited Approach
<b>Location:</b>	<b>BUS-0001</b>
<b>SKM Systems Analysis, Inc.</b>	
XEROX LEWISVILLE, TX	
Job#: 20130591	Prepared on: 01/20/15
By: Engineer	
Warning: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements	

SHADED AREAS TO BE ORANGE ALL OTHER TO BE WHITE BACKGROUND

(TYP) DISTANCES IN INCHES

COORDINATE VOLTAGE VALUES WITH ONE-LINE

MATCH NAME OF EQUIPMENT WITH NAMES ON ONE-LINE

PROVIDE ADDRESS WHERE SKM ANALYTICS IS PERFORMED

PROVIDE JOB NUMBER "#####", DATE OF ANALYSIS AND ENGINEER WHO PERFORMED STUDY

\*PROVIDE ARC FLASH LABEL FOR ALL ELECTRICAL EQUIPMENT PER SPECIFICATIONS AND REQUIRED BY NEC

**C1** TYPICAL ARC FLASH LABEL  
SCALE: 1/8" = 1'-0"

- LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH. LABEL SHALL BE INSTALLED AT THE NORMAL POWER SOURCE EQUIPMENT.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 1/2" HIGH, CENTERED.
- SECOND SET OF LINES: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.

**C3** GENERATOR GROUNDING LABEL  
SCALE: NTS

- LABEL TO BE PROVIDED AT EACH SWITCHBOARD, PANELBOARD, DISCONNECT/STARTER. LABEL IS TO BE 3" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER/NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
- SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF DEVICE.
- THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. PROVIDE "FED FROM" AND REPLACE MDP1 WITH THE DEVICES NAME THAT FEEDS THE PANELBOARD.

NOTE: EMERGENCY PANELS SHALL USE LAMACOID WITH RED OUTERPLY. EXPOSING WHITE LETTERING BENEATH. CONTRACTOR TO USE SAME LABEL SCHEME EXCEPT FIRST 'X' IS REPLACED WITH 'E' FOR EMERGENCY. SECOND 'X' TO BE 'L' FOR LOW OR 'H' FOR HIGH VOLTAGE (480/277V). LAST 'W' TO BE REPLACED WITH LETTER INDICATING LOCATION OF PANEL.

**D4** TYPICAL PANELBOARD/SWITCHBOARD LABEL  
SCALE: NTS

- LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, WITH THE EQUIPMENT ID MATCHING PLAN.
- SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF GEAR.
- THIRD & FOURTH LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. LABEL WITH ACTUAL AVAILABLE FAULT CURRENT AND ASSOCIATED CLEARING TIME.

**C4** TYPICAL MAIN SERVICE EQUIPMENT/GEAR LABEL  
SCALE: NTS

GENERATOR DOCKING STATION "ID"

XXX AMPS

480/277V, #PH, #W

CLOCKWISE

PHASE ROTATION

SYSTEM BONDING NEUTRAL TO GROUND BOND AT TEMPORARY GENERATOR REQUIRED - YES

- LABEL IS TO BE SIZED APPROPRIATELY 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER RED PLY, EXPOSING WHITE PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER/NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
- SECOND LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, AMPACITY OF GENERATOR DOCKING STATION.
- THIRD LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES.
- FOURTH LINE: ARROW SHOULD BE SIZED APPROPRIATELY AND CENTERED. LETTERING SHALL BE 1/2" HIGH, FORMATTED AS SHOWN.
- FIFTH LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.
- SIXTH LINE: LETTERING IS TO BE 1/4" HIGH, CENTERED, AND FORMATTED AS SHOWN.
- SYSTEM BONDING REQUIREMENTS LIST:  
YES = FOR SEPARATELY DERIVED GENERATOR SYSTEM  
NO = FOR NON-SEPARATELY DERIVED GENERATOR SYSTEM

GENERAL NOTES:  
• CONTRACTOR SHALL FIELD VERIFY PHASE ROTATION AND APPLY APPROPRIATE LABEL FOR ROTATION  
• LABEL TO BE PERMANENTLY AFFIXED TO EQUIPMENT  
• LABEL VALUES TO BE UPDATED FOR ACTUAL EQUIPMENT INSTALLED.

**A1** GENERATOR DOCKING STATION LABEL  
SCALE: NTS

PANELBOARD LABEL LOCATED INSIDE OF DOOR, HIDDEN FROM PUBLIC

SWITCHBOARD LABEL

DISCONNECT LABEL

ARC FLASH LABEL LOCATED HERE

ARC FLASH LABEL LOCATED HERE

ARC FLASH LABEL LOCATED HERE

SWITCHBOARD LOAD LABEL

ARC FLASH LABEL LOCATED HERE

TYPICAL LABELING FOR DISCONNECTS

TYPICAL SWITCH LABEL LOCATION

TYPICAL RECEPTACLE LABEL LOCATION

TYPICAL LABELING FOR PANELBOARDS IN NON-PUBLIC LOCATIONS

TYPICAL LABELING FOR SWITCHBOARDS

**A3** TYPICAL SWITCH, RECEPTACLE AND PANELBOARD/SWITCHBOARD LABELING LOCATION DETAIL  
SCALE: NTS

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

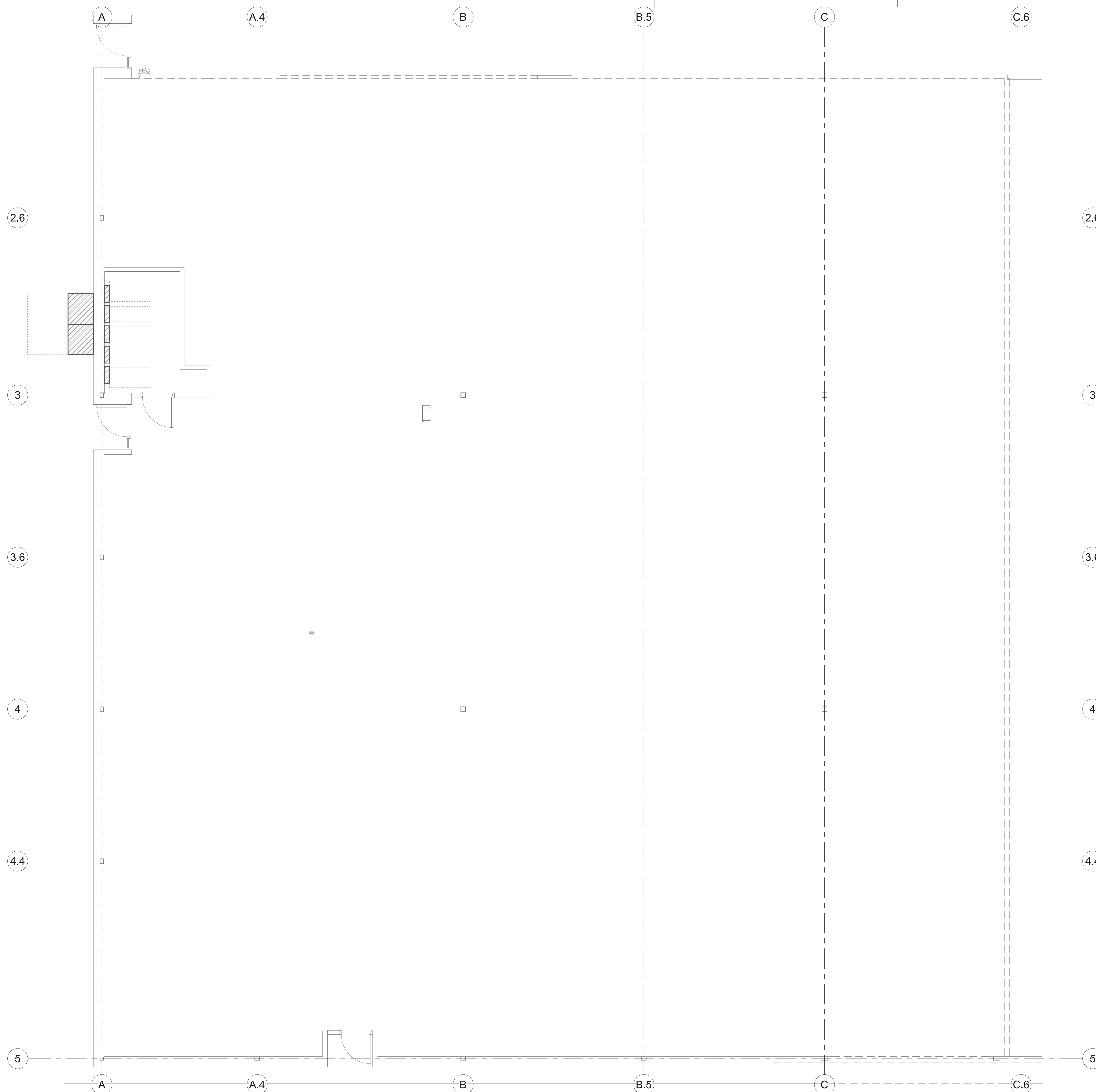
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TYPICAL LABELING DETAILS

EE702



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**1** LEVEL 1 ELECTRICAL DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"

**GENERAL SHEET NOTES**

- 1 DEMOLISH ALL ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING TO BE REMOVED BACK TO THE PANEL BOARD. DENOTE ALL REMOVED CIRCUITS AS "SPARE" ON THE PANEL SCHEDULE KEPT WITH EACH PANEL BOARD. TURN ALL CIRCUIT BREAKERS AND SWITCHES PROTECTING CIRCUITS REMOVED DURING DEMOLITION TO THE "OFF" POSITION.
- 2 REMOVE ALL UNUSED AND ABANDONED ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING. DO NOT LEAVE ABANDONED COMPONENTS IN PLACE UNLESS OTHERWISE NOTED.
- 3 WHERE THE SOURCE TO OTHER ELECTRICAL ITEMS WHICH ARE TO REMAIN IS INTERRUPTED BY THE REMOVAL OF AN ITEM OR DEVICE, THE CONTRACTOR SHALL INSTALL THE NECESSARY CONDUIT AND WIRE TO RECONNECT IT TO ITS NEAREST OR MOST CONVENIENT ORIGINAL SOURCE.
- 4 WHERE CIRCUITS OR OTHER ELECTRICAL EQUIPMENT UNRELATED TO THIS WORK PASS THROUGH THE AREA AFFECTED BY DEMOLITION, THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO MAINTAIN THE EXISTING INSTALLATION OR PERFORM THE NECESSARY WORK TO RELOCATE SUCH CIRCUITING OR OTHER ELECTRICAL EQUIPMENT AS NECESSARY TO MAINTAIN CONTINUITY.
- 5 ALL DEMOLITION WORK SHALL BE FULLY COORDINATED WITH ALL TRADES.
- 6 REFER TO ARCHITECTURAL PLANS FOR COMPLETE SCOPE OF DEMOLITION WORK. THE CONTRACTOR SHALL SURVEY THE EXISTING CONDITIONS PRIOR TO BIDDING TO INCORPORATE THE SCOPE OF DEMOLITION WORK INTO THE BID.
- 7 THE BUILDING OWNER RESERVES THE RIGHT TO HAVE SOME OF THE REMOVED MATERIALS STORED ON SITE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING, IN CONJUNCTION WITH THE BUILDING OWNER, THE LIST OF WHAT IS TO BE SALVAGED.
- 8 ALL DEVICES AND EQUIPMENT SHOWN SHALL BE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. REFER TO THE LIGHTING PLAN FOR ADDITIONAL INFORMATION ON EXISTING LIGHT FIXTURES TO BE RELOCATED UNDER THIS WORK.
- 9 DEMOLISH ALL EXISTING DEVICES ON EXISTING WALLS TO BE DEMOLISHED UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ASSOCIATED CONDUIT, CONDUCTORS, ETC., BACK TO NEAREST SOURCE TO REMAIN.
- 10 PRIOR TO COMMENCEMENT OF DEMOLITION WORK, GENERAL CONTRACTOR IS TO COORDINATE WITH FACILITY SYSTEM VENDORS (BMS, DATA, LIGHTING CONTROL, NURSE CALL, PAGING, ETC.) AND INTERMOUNTAIN INFORMATION SERVICES A THREE WORKING DAY PERIOD FOR VENDOR REMOVAL, RELOCATION, AND PROTECTION OF EXISTING VENDOR SYSTEM CABLING WITHIN PROJECT AREA OF WORK. DEMOLITION WORK MAY COMMENCE ONLY AFTER VENDOR COMPLETION OR AS APPROVED BY INTERMOUNTAIN HEALTH CARE PROJECT MANAGER.
- 11 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

**SHEET KEYNOTES**



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fax: 801-328-5155  
www.spectrum-engineers.com

Intermountain Health  
**Intermountain Kidney Services**  
**West Valley Dialysis**

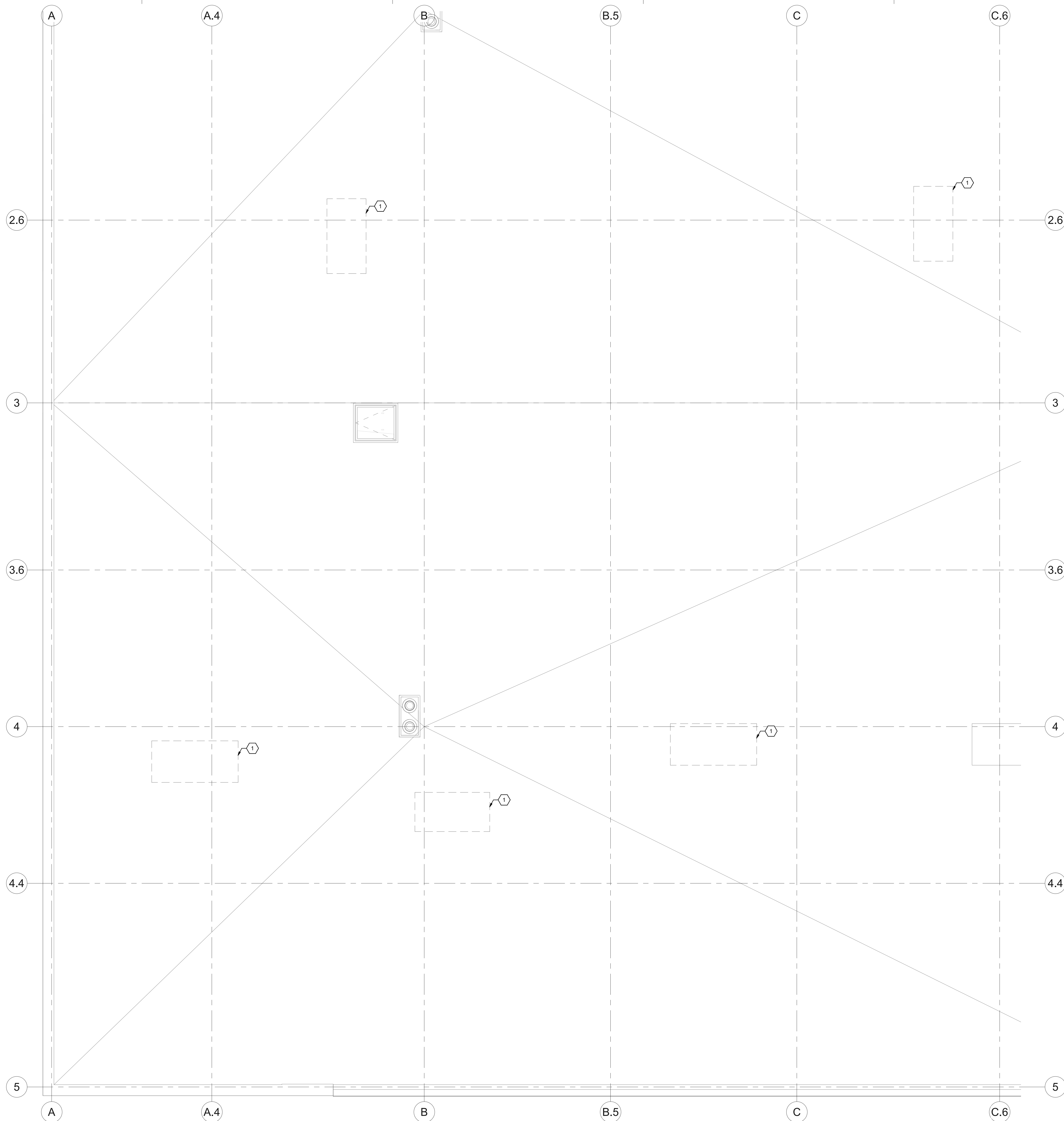
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Construction Documents Jan. 15, 2024

**LEVEL 1  
ELECTRICAL  
DEMOLITION  
PLAN**

**ED101**

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**1** ROOF ELECTRICAL DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"

**GENERAL SHEET NOTES**

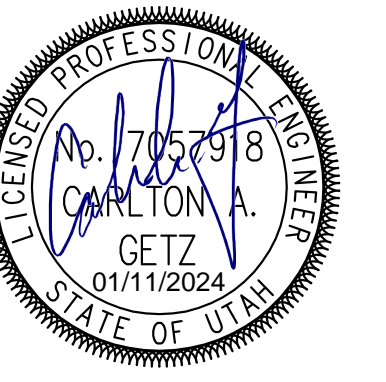
- 1 DEMOLISH ALL ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING TO BE REMOVED BACK TO THE PANEL BOARD. DENOTE ALL REMOVED CIRCUITS AS "SPARE" ON THE PANEL SCHEDULE KEPT WITH EACH PANEL BOARD. TURN ALL CIRCUIT BREAKERS AND SWITCHES PROTECTING CIRCUITS REMOVED DURING DEMOLITION TO THE "OFF" POSITION.
- 2 REMOVE ALL UNUSED AND ABANDONED ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING. DO NOT LEAVE ABANDONED COMPONENTS IN PLACE UNLESS OTHERWISE NOTED.
- 3 WHERE THE SOURCE TO OTHER ELECTRICAL ITEMS WHICH ARE TO REMAIN IS INTERRUPTED BY THE REMOVAL OF AN ITEM OR DEVICE, THE CONTRACTOR SHALL INSTALL THE NECESSARY CONDUIT AND WIRE TO RECONNECT IT TO ITS NEAREST OR MOST CONVENIENT ORIGINAL SOURCE.
- 4 WHERE CIRCUITS OR OTHER ELECTRICAL EQUIPMENT UNRELATED TO THIS WORK PASS THROUGH THE AREA AFFECTED BY DEMOLITION, THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO MAINTAIN THE EXISTING INSTALLATION OR PERFORM THE NECESSARY WORK TO RELOCATE SUCH CIRCUITING OR OTHER ELECTRICAL EQUIPMENT AS NECESSARY TO MAINTAIN CONTINUITY.
- 5 ALL DEMOLITION WORK SHALL BE FULLY COORDINATED WITH ALL TRADES.
- 6 REFER TO ARCHITECTURAL PLANS FOR COMPLETE SCOPE OF DEMOLITION WORK. THE CONTRACTOR SHALL SURVEY THE EXISTING CONDITIONS PRIOR TO BIDDING TO INCORPORATE THE SCOPE OF DEMOLITION WORK INTO THE BID.
- 7 THE BUILDING OWNER RESERVES THE RIGHT TO HAVE SOME OF THE REMOVED MATERIALS STORED ON SITE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING, IN CONJUNCTION WITH THE BUILDING OWNER, THE LIST OF WHAT IS TO BE SALVAGED.
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- 9 DEMOLISH ALL EXISTING DEVICES ON EXISTING WALLS TO BE DEMOLISHED UNLESS SPECIFICALLY NOTED OTHERWISE. REMOVE ALL ASSOCIATED CONDUIT, CONDUCTORS, ETC., BACK TO NEAREST SOURCE TO REMAIN.
- 10 PRIOR TO COMMENCEMENT OF DEMOLITION WORK, GENERAL CONTRACTOR IS TO COORDINATE WITH FACILITY SYSTEM VENDORS (BMS, DATA, LIGHTING CONTROL, NURSE CALL, PAGING, ETC.) AND INTERMOUNTAIN INFORMATION SERVICES A THREE WORKING DAY PERIOD FOR VENDOR REMOVAL, RELOCATION, AND PROTECTION OF EXISTING VENDOR SYSTEM CABLING WITHIN PROJECT AREA OF WORK. DEMOLITION WORK MAY COMMENCE ONLY AFTER VENDOR COMPLETION OR AS APPROVED BY INTERMOUNTAIN HEALTH CARE PROJECT MANAGER.
- 11 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

**SHEET KEYNOTES**

- 1 EXISTING ROOFTOP UNIT TO BE DEMOLISHED. REMOVE EXISTING BRANCH CIRCUIT CONDUCTORS AND CONDUIT BACK TO NEAREST SOURCE. REFER TO MECHANICAL DEMOLITION DRAWINGS FOR MORE INFORMATION.



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NJRA Project # 22211.05  
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ROOF  
ELECTRICAL  
DEMOLITION  
PLAN

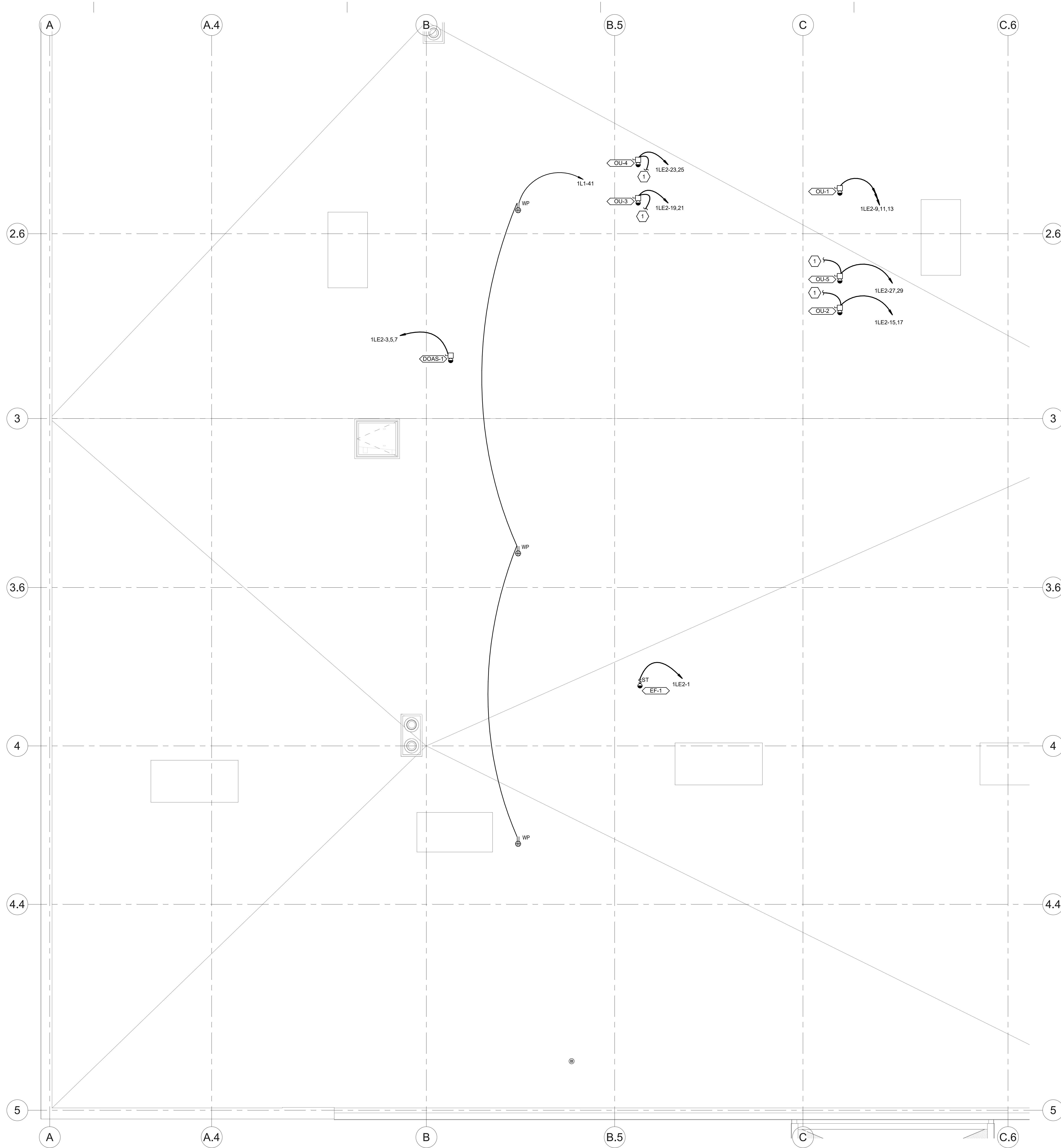
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# 1 ROOF POWER PLAN

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



## GENERAL SHEET NOTES

- 1 PROVIDE LABELS ON ALL NEW DEVICES PER PROJECT SPECIFICATIONS CONFORMING WITH DIVISION 26 SPECIFICATIONS FOR IDENTIFICATION OF ELECTRICAL EQUIPMENT AND INTERMOUNTAIN'S DIVISION 27 SPECIFICATIONS PRIOR TO SUBSTANTIAL COMPLETION.
- 2 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

## SHEET KEYNOTES

- 1 EXTEND POWER TO ASSOCIATED INDOOR UNIT PER MANUFACTURER INSTRUCTIONS. REFER TO EQUIPMENT SCHEDULE FOR ASSOCIATED INDOOR UNIT.



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ROOF POWER PLAN

EP102



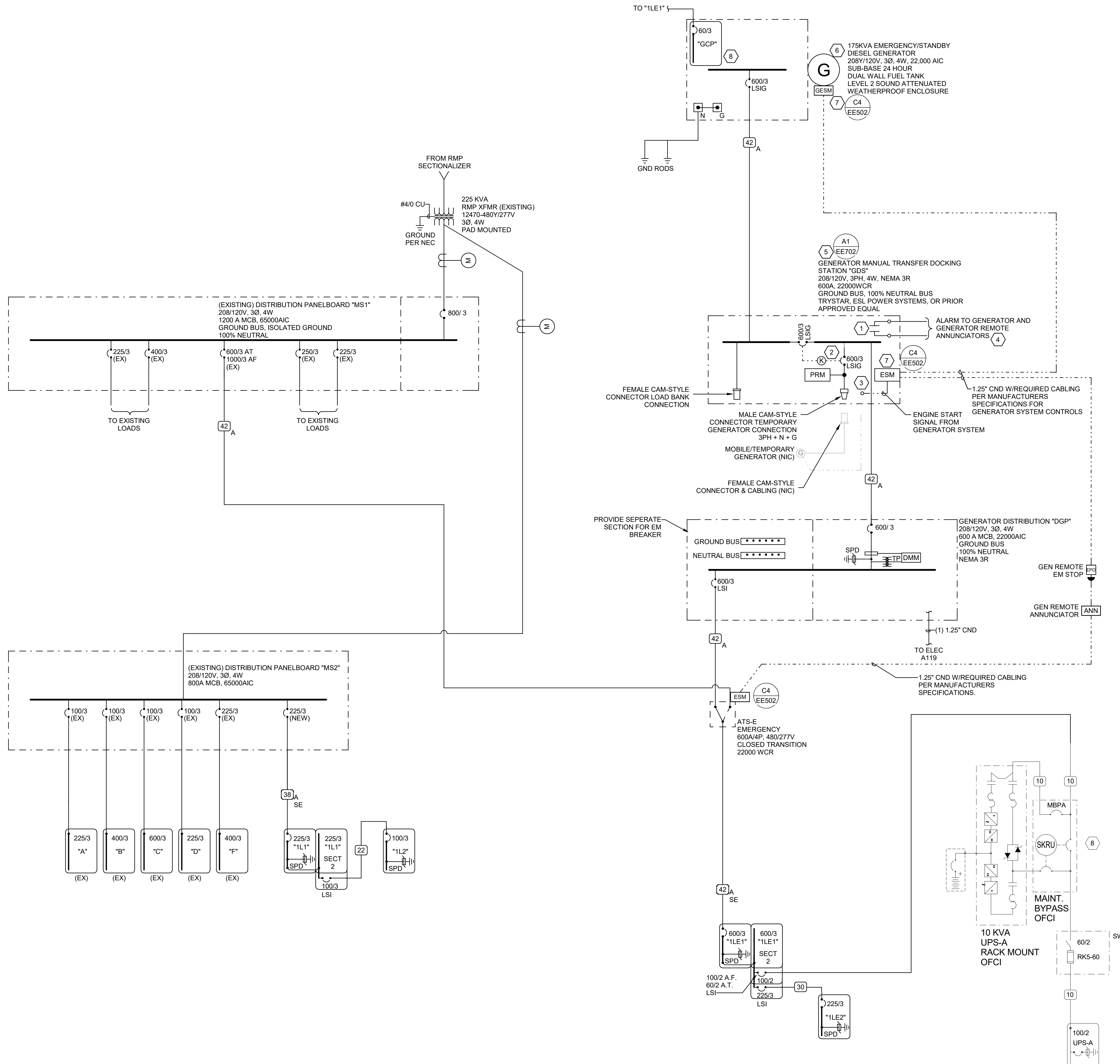


GENERAL SHEET NOTES

- 1 PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
- 2 REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
- 3 ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO ELECTRICAL SPECIFICATIONS FOR REQUIREMENTS.
- 4 PROVIDE PERFORMANCE TESTING FOR GROUND-Fault PROTECTION SYSTEMS ON SITE WITH A WRITTEN RECORD OF THIS TEST SUBMITTED TO THE AUTHORITY HAVING JURISDICTION PER NEC 230.95(C).

SHEET KEYNOTES

- 1 PERMANENT EMERGENCY GENERATOR CIRCUIT BREAKER POSITION INDICATION, N.O. RELAY TO CLOSE INDICATING BREAKER IS IN OPEN POSITION FOR ALARM PURPOSES.
- 2 PROVIDE KIRK-KEY MECHANICAL INTERLOCK SCHEME #11 TO PREVENT PARALLING OF GENERATOR AND TEMPORARY GENERATOR LINES; SINGLE LOAD FED FROM EITHER SOURCE, BUT NEVER BOTH SOURCES.
- 3 TEMPORARY GENERATOR START SIGNAL WIRING TERMINAL BLOCK, TO BE LOCATED IN DEADFRONT CONTROL SECTION OF GEAR.
- 4 VISUAL AND AUDIBLE ALARM TO INDICATE PERMANENT GENERATOR CIRCUIT BREAKER IS IN THE OPEN POSITION AND THE PERMANENT EMERGENCY SOURCE HAS BEEN DISCONNECTED FROM THE EMERGENCY SYSTEM.
- 5 PROVIDE PERMANENT LABEL INDICATING PHASE ROTATION AND SYSTEM BONDING REQUIREMENTS PER NEC 700.3(F)(3).
- 6 MAXIMUM COMBINED OVERALL DIMENSION OF GENERATOR SOUND ATTENUATED ENCLOSURE PLUS SUB-BASE FUEL TANK SHALL NOT EXCEED ##'-##" LONG X ##'-##" WIDE X ##'-##" TALL.
- 7 GENERATOR ENGINE START SIGNAL MONITORING SYSTEM MODULE INSTALLED WITHIN GENERATOR AND AT(S) TO MONITOR INTEGRITY OF GENERATOR START SIGNAL WIRING.
- 8 PROVIDE A FACTORY MOUNTED GENERATOR POWER PANEL WITH ALL POWERED GENERATOR COMPONENTS FACTORY WIRED. THIS INCLUDES, BUT IS NOT LIMITED TO, BLOCK HEATERS, BATTERY CHARGERS, CONVENIENCE OUTLETS, CONTROL POWER, LIGHTING, ETC.



A1 PARTIAL ONE-LINE DIAGRAM  
SCALE: 1/8" = 1'-0"

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

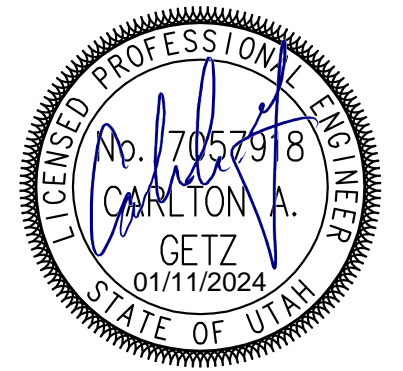
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West Valley City, UT 84120

NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

ONE-LINE  
DIAGRAM

EP602



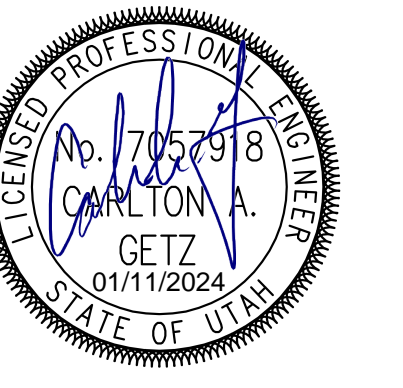


PANEL: "A"(EXISTING)																					
VOLTS/PHASE/WIRE:				PANEL SIZE & TYPE:				MAIN SIZE AND TYPE:				FED FROM:		CABINET:		LOCATION:		NOTES:			
120/208V, 3 PH 4 WIRE				22" W x 6" D, BOLT-ON				225 AMPERE MAIN LUGS				SURFACE		ELEC. ROOM A109							
ACCESSORIES:										AIC RATING: (EXISTING)											
PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																					
CKT NO	AMP	POLE	BKR	LTG	PWR	CO	PHASE LOAD			LOAD (kVA)			OC	PWR	LTG	BKR	POLE	AMP	CKT NO		
1	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) CONFERENCE ROOM SCREEN														
3	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) VA BREAK ROOM NORTH WALL														
5	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) VA BREAK ROOM NORTH WALL														
7	20	2	--	--	--	--	0.0	0.0											1	20	
(EX) SMOKE SHACK FAN							(EX) VA BATH, HALL, OUTLETS														
9	--	--	--	--	--	--	0.0	0.0											1	20	
(EX) SMOKE SHACK FAN...							(EX) SPARE														
13	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING ELEC ROOM							(EX) SPARE														
15	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) VA LAB EXHAUST FAN							(EX) EWC														
17	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) LIGHTING BACK BATHROOM														
19	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING ITS HALL							(EX) OUTLETS BACK BATHROOM														
21	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING RECORDS, MAIL							(EX) BATHROOM														
23	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) LTG BREAK/ELEC RM HALL							(EX) DRINKING FOUNTAIN														
25	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING CUBICLES ROW 5							(EX) BATHROOM														
27	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LTG CUBICLES ROW 3.4							(EX) VA DRINKING FOUNTAIN														
29	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LTG CUBICLES ROW 1.2							(EX) SPRINKLER CLOCK														
31	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) LIGHTING CUBICLES														
33	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING CUBICLES							(EX) SPARE														
35	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING CUBICLES							(EX) SPARE														
37	20	1	--	--	--	--	0.0	0.0											2	20	
(EX) SPARE							(EX) ENTRY HEATER														
39	20	1	--	--	--	--	0.0	0.0											--	40	
(EX) SPARE																					
41	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) LIGHTING LOBBY							(EX) EMERGENCY LTS/EXIT SIGNS														
<b>TOTALS:</b>							CONNECTED kVA PER PHASE			0 0 0			CONNECTED TOTAL kVA =			0					
							CONNECTED AMPS PER PHASE			0 0 0			AVERAGE CONNECTED AMPS PER PHASE =			0					
NEC DIVERSIFIED LOAD CALCULATIONS																					
LIGHTING & CONTINUOUS LOADS:										- 100% CONNECTED LOAD PLUS 25%					DIVERSIFIED TOTAL kVA = 0						
RECEPTACLES:										- FIRST 10kVA @ 100%, REMAINDER @ 50%					AVERAGE AMPS PER PHASE = 0						
ALL OTHER LOADS @ 100%:										0.0 kVA					- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC						
BKR: GF=GFCI, GF3=30mA GFCI CAPABLE OF BEING LOCKED OUT IN OPEN POSITION, IG=ISOLATED GROUND, AF=AFCI, ST=SHUNT TRIP, RED=PROVIDE RED COLORED BREAKER, AF=ARC FAULT CURRENT INTERRUPTER, GA=COMBINATION OF GROUND FAULT AND ARC FAULT CIRCUIT INTERRUPTER, GS=COMBINATION OF SHUNT TRIP WITH GFCI																					
NOTES:																					

PANEL: "B"(EXISTING)																					
VOLTS/PHASE/WIRE:				PANEL SIZE & TYPE:				MAIN SIZE AND TYPE:				FED FROM:		CABINET:		LOCATION:		NOTES:			
120/208V, 3 PH 4 WIRE				22" W x 6" D, BOLT-ON				400 AMPERE MAIN LUGS				SURFACE		ELEC. ROOM A109							
ACCESSORIES:										AIC RATING: (EXISTING)											
PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																					
CKT NO	AMP	POLE	BKR	LTG	PWR	CO	PHASE LOAD			LOAD (kVA)			OC	PWR	LTG	BKR	POLE	AMP	CKT NO		
1	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) SPARE														
3	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) SPARE														
5	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) SPARE														
9	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) SPARE														
11	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) SPARE														
13	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) SPARE														
15	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) SPARE														
17	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) SPARE														
19	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) ZONE BOX 31 ENTRY														
21	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) ZONE BOX 31 ENTRY														
23	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) ZONE BOX 31 ENTRY														
25	20	1	--	--	--	--	0.0	0.0											2	20	
(EX) SPARE							(EX) MAIL ROOM COPY MACHINE														
27	20	1	--	--	--	--	0.0	0.0											--	28	
(EX) SPARE																					
29	20	1	--	--	--	--	0.0	0.0	0.0	0.0									2	20	
(EX) SPARE							(EX) NE EXTERIOR SIGN														
31	20	1	--	--	--	--	0.0	0.0											--	32	
(EX) SPARE																					
33	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EXISTING)														
35	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EXISTING)														
37	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) ZONE BOX 28, 29, 30														
39	20	1	--	--	--	--	0.0	0.0											1	20	
(EX) SPARE							(EX) INTERVIEW RM FLOOR														
41	20	1	--	--	--	--	0.0	0.0	0.0	0.0									1	20	
(EX) SPARE							(EX) INTERVIEW ROOM FLOOR BOX														
<b>TOTALS:</b>							CONNECTED kVA PER PHASE			0 0 0			CONNECTED TOTAL kVA =			0					
							CONNECTED AMPS PER PHASE			0 0 0			AVERAGE CONNECTED AMPS PER PHASE =			0					
NEC DIVERSIFIED LOAD CALCULATIONS																					
LIGHTING & CONTINUOUS LOADS:										- 100% CONNECTED LOAD PLUS 25%					DIVERSIFIED TOTAL kVA = 0						
RECEPTACLES:										- FIRST 10kVA @ 100%, REMAINDER @ 50%					AVERAGE AMPS PER PHASE = 0						
ALL OTHER LOADS @ 100%:										0.0 kVA					- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC						
BKR: GF=GFCI, GF3=30mA GFCI CAPABLE OF BEING LOCKED OUT IN OPEN POSITION, IG=ISOLATED GROUND, AF=AFCI, ST=SHUNT TRIP, RED=PROVIDE RED COLORED BREAKER, AF=ARC FAULT CURRENT INTERRUPTER, GA=COMBINATION OF GROUND FAULT AND ARC FAULT CIRCUIT INTERRUPTER, GS=COMBINATION OF SHUNT TRIP WITH GFCI																					
NOTES:																					

PANEL: "C"(EXISTING)																					
VOLTS/PHASE/WIRE:				PANEL SIZE & TYPE:				MAIN SIZE AND TYPE:				FED FROM:		CABINET:		LOCATION:		NOTES:			
120/208V, 3 PH 4 WIRE				22" W x 6" D, BOLT-ON				600 AMPERE MAIN LUGS				SURFACE		ELEC. ROOM A109							
ACCESSORIES:										AIC RATING: (EXISTING)											
PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																					
CKT NO	AMP	POLE	BKR	LTG	PWR	CO	PHASE LOAD			LOAD (kVA)			OC	PWR	LTG	BKR	POLE	AMP	CKT NO		
1	60	3	--	--	--	--	0.0	0.0											3	80	
(EX) SPARE							(EX) RTU 8														
3	--	--	--	--	--	--	0.0	0.0	0.0	0.0									--	4	
5	--	--	--	--	--	--	0.0	0.0											--	6	
7	60	3	--	--	--	--	0.0	0.0											3	80	
(EX) SPARE							(EX) RTU 9														
9	--	--	--	--	--	--	0.0	0.0	0.0	0.0									--	10	
11	--	--	--	--	--	--	0.0	0.0											--	12	
13	60	3	--	--	--	--	0.0	0.0											3	80	
(EX) SPARE							(EX) RTU 10														
15	--	--	--	--	--	--	0.0	0.0											--	16	
17	--	--	--	--	--	--	0.0	0.0											--	18	
19	60	3	--	--	--	--	0.0	0.0											3	60	
(EX) SPARE							(EX) RTU 11														
21	--	--	--	--	--	--	0.0	0.0													





PANEL: "1L1"																			
VOLTS/PHASE/WIRE:		PANEL SIZE & TYPE:		MAIN SIZE AND TYPE:		FED FROM:	CABINET:	LOCATION:		NOTES:		ACCESSORIES:							
120/208V, 3 PH 4 WIRE		22" W x 6" D, BOLT-ON		225 AMPERE MAIN LUGS		1L1	SURFACE	ELECTRICAL A106				AIC RATING: 22,000							
CKT NO	AMP	POLE	BKR	LOAD (KVA)	DESCRIPTION	PHASE LOAD			DESCRIPTION	LOAD (KVA)	BKR	POLE	AMP	CKT NO					
						A	B	C											
1	20	1	0.0	0.0	CO - TOILET A155, WAITING A156	0.9	1.3		CO - TOILET A148, HOME TRAIN A142	1.3	0.0	0.0	1	20	2				
3	20	1	0.0	0.0	CO - CLEAN A119, OFFICE A129		1.4	1.1	CO - HOME TRAIN A134	1.1	0.0	0.0	1	20	4				
5	20	1	0.0	1.0	VENDING - NOURISHMENT A146			1.0	CO - BAY #1 A151	1.1	0.0	0.0	1	20	6				
7	20	1	0.0	1.1	ICE MAKER - NOURISHMENT A146	1.1	1.1		CO - BAY #2 A144	1.1	0.0	0.0	1	20	8				
9	20	1	0.0	0.7	COFFEE - NOURISHMENT A146		0.7	1.1	CO - BAY #3 A135	1.1	0.0	0.0	1	20	10				
11	20	1	0.0	1.3	MICROWAVE - NOURISHMENT...			1.3	CO - BAY #4 A130	1.1	0.0	0.0	1	20	12				
13	20	1	0.0	0.4	CO - NOURISH A146, SCALES A147	0.9	1.1		CO - BAY #5 A127	1.1	0.0	0.0	1	20	14				
15	20	1	0.0	0.0	CO - CORRIDORS		1.4	1.1	CO - BAY #6 A120	1.1	0.0	0.0	1	20	16				
17	20	1	0.0	0.0	CO - TOIL A132, A133, OFFICE...			1.3	CO - BAY #7 A121	1.1	0.0	0.0	1	20	18				
19	20	1	0.0	0.0	CO - TOIL, MED, A124, HSKP A125	0.9	1.1		CO - BAY #8 A122	1.1	0.0	0.0	1	20	20				
21	20	1	0.0	0.0	CO - CONFERENCE ROOM A115		1.3	1.1	CO - BAY #9 A123	1.1	0.0	0.0	1	20	22				
23	20	1	0.0	1.1	CO - STAFF BREAKROOM A114			1.9	CO - BAY #10 A131	1.1	0.0	0.0	1	20	24				
25	20	1	0.0	0.7	COFFEE - STAFF BREAKROOM...	0.7	1.1		CO - BAY #11 A139	1.1	0.0	0.0	1	20	26				
27	20	1	0.0	1.3	MICROWAVE - STAFF BREAK A114		1.3	1.1	CO - BAY #12 A145	1.1	0.0	0.0	1	20	28				
29	20	1	0.0	0.0	CO - PRIVACY ROOM A112			1.1	CO - PRIVATE ISOLATION A154	1.1	0.0	0.0	1	20	30				
31	20	1	0.0	0.0	CO - SHARED OFFICE A102	0.7	1.1		CO ROOM A105, A104, A103	1.1	0.0	0.0	1	20	32				
33	20	1	0.0	0.0	CO - NURSE STATION A137		0.7	0.7	CO WATER TREATMENT A107	0.7	0.0	0.0	1	20	34				
35	20	1	0.0	0.5	MECHOSHADA		0.5	1.3	WATER TREATMENT A107 WIREWAY	1.3	0.0	0.0	1	20	36				
37	20	1	0.0	0.7	MECHOSHADA	0.7	0.7		DF WAITING A156	0.0	0.7	0.0	1	20	38				
39	20	1	0.0	0.7	MECHOSHADA		0.7	0.0	SPARE	--	--	--	1	20	40				
41	20	1	0.0	0.0	CO - ROOF			0.5	SPARE	--	--	--	1	20	42				
43	20	1	0.8	0.0	LIGHTING	0.8	0.7		POWER TDR A118	0.0	1.5	0.0	2	30	44				
45	20	1	1.4	0.0	LIGHTING		1.4	0.7	SPARE	--	--	--	1	20	46				
47	20	1	1.0	0.0	CORRIDOR LIGHTING (LCP-1)			1.0	POWER TDR A118	0.0	0.5	0.0	1	20	48				
49	20	1	0.7	0.0	CORRIDOR LIGHTING (LCP-5)	0.7	0.7		POWER TDR A118	0.0	1.5	0.0	2	30	50				
51	20	1	--	--	SPARE		0.0	0.7	SPARE	--	--	--	1	20	52				
53	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	54				
55	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	56				
57	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	58				
59	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	60				
61	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	62				
63	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	64				
65	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	66				
67	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	68				
69	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	70				
71	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	72				
73	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	74				
75	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	76				
77	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	78				
79	20	1	--	--	SPARE	0.0	0.0		"1L2"	0.0	0.0	0.0	3	100	80				
81	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	82				
83	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	84				
<b>TOTALS:</b>		CONNECTED KVA PER PHASE		16	17	16	CONNECTED TOTAL KVA =		49	CONNECTED AMPS PER PHASE		136	139	132	AVERAGE CONNECTED AMPS PER PHASE =	135			

PANEL: "1L2"																			
VOLTS/PHASE/WIRE:		PANEL SIZE & TYPE:		MAIN SIZE AND TYPE:		FED FROM:	CABINET:	LOCATION:		NOTES:		ACCESSORIES:							
120/208V, 3 PH 4 WIRE		22" W x 6" D, BOLT-ON		100 AMPERE MAIN LUGS		1L1	SURFACE	ELECTRICAL A106				AIC RATING: 22,000							
CKT NO	AMP	POLE	BKR	LOAD (KVA)	DESCRIPTION	PHASE LOAD			DESCRIPTION	LOAD (KVA)	BKR	POLE	AMP	CKT NO					
						A	B	C											
1	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	2				
3	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	4				
5	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	6				
7	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	8				
9	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	10				
11	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	12				
13	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	14				
15	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	16				
17	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	18				
19	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	20				
21	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	22				
23	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	24				
25	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	26				
27	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	28				
29	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	30				
31	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	32				
33	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	34				
35	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	36				
37	20	1	--	--	SPARE	0.0	0.0		SPARE	--	--	--	1	20	38				
39	20	1	--	--	SPARE		0.0	0.0	SPARE	--	--	--	1	20	40				
41	20	1	--	--	SPARE			0.0	SPARE	--	--	--	1	20	42				
<b>TOTALS:</b>		CONNECTED KVA PER PHASE		0	0	0	CONNECTED TOTAL KVA =		0	CONNECTED AMPS PER PHASE		0	0	0	AVERAGE CONNECTED AMPS PER PHASE =	0			

PANEL: "1LE1"																			
VOLTS/PHASE/WIRE:		PANEL SIZE & TYPE:		MAIN SIZE AND TYPE:		FED FROM:	CABINET:	LOCATION:		NOTES:		ACCESSORIES:							
120/208V, 3 PH 4 WIRE		22" W x 6" D, BOLT-ON		600 AMPERE MAIN LUGS		1LE1	SURFACE	ELECTRICAL A106				AIC RATING: 22,000							
CKT NO	AMP	POLE	BKR	LOAD (KVA)	DESCRIPTION	PHASE LOAD			DESCRIPTION	LOAD (KVA)	BKR	POLE	AMP	CKT NO					
						A	B	C											
1	20	1	0.0	1.2	AUTODOORS	1.2	0.9		CO - HOME TRAINING ROOM #2 A142	0.9	0.0	0.0	1	20	2				
3	20	1	0.0	1.2	AUTODOORS		1.2	0.6	DIALYSIS - HOME TRAIN ROOM #2...	0.0	0.6	0.0	1	20	4				
5	20	1	0.0	0.8	AUTODOORS			0.8	CO - HOME TRAINING ROOM #1 A134	0.9	0.0	0.0	1	20	6				
7	20	1	0.0	1.2	COPIER - SHARED OFFICE A129	1.2	0.6		DIALYSIS - HOME TRAIN ROOM #1...	0.0	0.6	0.0	1	20	8				
9	20	1	0.0	0.0	CO - SHARED OFFICE A129		1.1	0.6	DIALYSIS - CORRIDOR A111	0.0	0.6	0.0	1	20	10				
11	20	1	0.0	0.0	CO - SHARED OFFICE A129			0.7	CO - BAY #1 A151	0.5	0.0	0.0	1	20	12				
13	20	1	0.0	1.0	WARMER - CLEAN SUPPLY A119	1.0	0.6		DIALYSIS - BAY #1 A151	0.0	0.6	0.0	1	20	14				
15	20	1	0.0	0.0	CO - TDR A118		0.9	0.7	CO - BAY #1 A151	0.7	0.0	0.0	1	20	16				
17	20	1	0.0	0.7	FRIDGE - NOURISHMENT A146			0.7	DIALYSIS - BAY #2 A144	0.0	0.6	0.0	1	20	18				
19	20	1	0.0	1.2	COPIER - SHARED OFFICE A140	1.2	0.5		CO - BAY #3 A135	0.5	0.0	0.0	1	20	20				
21	20	1	0.0	0.0	CO - SHARED OFFICE A140		1.4	0.6	DIALYSIS - BAY #3 A135	0.0	0.6	0.0	1	20	22				
23	20	1	0.0	0.0	CO - MED ROOM A124			0.4	CO - BAY #4 A130	0.7	0.0	0.0	1	20	24				
25	20	1	0.0	0.7	FRIDGE - MED ROOM A124	0.7	0.6		DIALYSIS - BAY #4 A130	0.0	0.6	0.0	1	20	26				
27	20	1	0.0	0.7	FRIDGE - STAFF BREAKROOM...		0.7	0.5	CO - BAY #5 A127	0.5	0.0	0.0	1	20	28				
29	20	1	0.0	0.7	FRIDGE - STAFF BREAKROOM...			0.7	DIALYSIS - BAY #5 A127	0.0	0.6	0.0	1	20	30				
31	20	1	0.0	0.0	CO LAB A113	0.9	0.7		CO - BAY #6 A120	0.7	0.0	0.0	1	20	32				
33	20	1	0.0	0.7	POWER LAB A113		0.7	0.6	DIALYSIS - BAY #6 A120	0.0	0.6	0.0	1	20	34				
35	20	1	0.0	0.0	CO - BIO MED A105, TREATMENT...			0.7	CO - BAY #7 A121	0.4	0.0	0.0	1	20	36				
37	20	1	0.0	0.6	POWER - BIO MED A105	0.6	0.6		DIALYSIS - BAY #7 A121	0.0	0.6	0.0	1	20	38				
39	20	1	0.0	0.6	POWER - BIO MED A105		0.6	0.9	CO - BAY #7 A121	0.9	0.0	0.0	1	20	40				
41	20	1	0.0	1.2	COPIER - SHARED OFFICE A102			1.2	DIALYSIS - BAY #8 A122	0.0	0.6	0.0	1	20	42				
43	20	1	0.0	0.0	CO - SHARED OFFICE A102	1.1	0.9		CO - BAY #9 A123	0.9	0.0	0.0	1	20	44				
45	20	1	0.0	0.0	CO - NURSE STATION A137		1.1	0.6	DIALYSIS - BAY #9 A123	0.0	0.6	0.0	1	20	46				
47	20	1	0.0	0.0	CO - NURSE STATION A137			1.1	CO - BAY #10 A1										



PANEL: "UPS-A"																				
VOLTS/PHASE/WIRE:			PANEL SIZE & TYPE:			MAIN SIZE AND TYPE:			FED FROM:		CABINET:		LOCATION:		NOTES:					
120/208V, 1ØV, 1 PH 3 WIRE			22" W x 6" D, BOLT-ON			100 AMPERE MAIN LUGS			1LE1		SURFACE		TDR A118							
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																				
AIC RATING: 14,000																				
CKT NO	AMP	POLE	BKR	LTG	LOAD (KVA)			PHASE LOAD			DESCRIPTION	LOAD (KVA)			AMP	CKT NO				
					CO	PWR	LTG	A	B	C		CO	PWR	LTG						
1	30	2	--	--	0.0	1.5	0.0	0.7	0.7		POWER TDR A118	0.0	1.5	0.0	2	30	2			
3	--	--	--	--	--	--	--	0.7	0.7		--	--	--	--	--	--	4			
5	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	1	20	6		
7	20	1	--	--	0.0	0.5	0.0	0.5	0.0		POWER TDR A118	--	--	--	--	--	1	20	8	
9	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	10	
11	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	12
13	20	1	--	--	--	--	--	0.0	0.0		SPARE	--	--	--	--	--	1	20	14	
15	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	16	
17	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	18
19	20	1	--	--	--	--	--	0.0	0.0		SPARE	--	--	--	--	--	1	20	20	
21	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	22	
23	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	24
25	20	1	--	--	--	--	--	0.0	0.0		SPARE	--	--	--	--	--	1	20	26	
27	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	28	
29	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	30
31	20	1	--	--	--	--	--	0.0	0.0		SPARE	--	--	--	--	--	1	20	32	
33	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	34	
35	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	36
37	20	1	--	--	--	--	--	0.0	0.0		SPARE	--	--	--	--	--	1	20	38	
39	20	1	--	--	--	--	--		0.0	0.0	SPARE	--	--	--	--	--	1	20	40	
41	20	1	--	--	--	--	--			0.0	0.0	SPARE	--	--	--	--	--	1	20	42
<b>TOTALS:</b>			CONNECTED KVA PER PHASE			<b>2</b>	<b>1</b>	<b>0</b>	CONNECTED TOTAL KVA =			<b>3</b>								
			CONNECTED AMPS PER PHASE			<b>19</b>	<b>14</b>	<b>0</b>	AVERAGE CONNECTED AMPS PER PHASE =			<b>17</b>								
NEC DIVERSIFIED LOAD CALCULATIONS																				
LIGHTING & CONTINUOUS LOADS:						- 100% CONNECTED LOAD PLUS 25%						DIVERSIFIED TOTAL KVA = <b>3</b>								
RECEPTACLES:						- FIRST 10KVA @ 100%, REMAINDER @ 50%						AVERAGE AMPS PER PHASE = <b>17</b>								
ALL OTHER LOADS @ 100%: <b>3.5 KVA</b>						MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC														
BKR: GF=GFCL, GF3=30mA GFCL CAPABLE OF BEING LOCKED OUT IN OPEN POSITION, IG=ISOLATED GROUND, AF=AFCL, ST=SHUNT TRIP, RED=PROVIDE RED COLORED BREAKER, AF=ARC FAULT CURRENT INTERRUPTER, GA=COMBINATION OF GROUND FAULT AND ARC FAULT CIRCUIT INTERRUPTER, GS=COMBINATION OF SHUNT TRIP WITH GFCL																				

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

PANEL  
SCHEDULES

EP606



PROJECT NOTES:  
Please see files;

**IMHC MURRAY**  
2750 SOUTH 5600 WEST  
WEST VALLEY, UT. 84120

PROJECT:

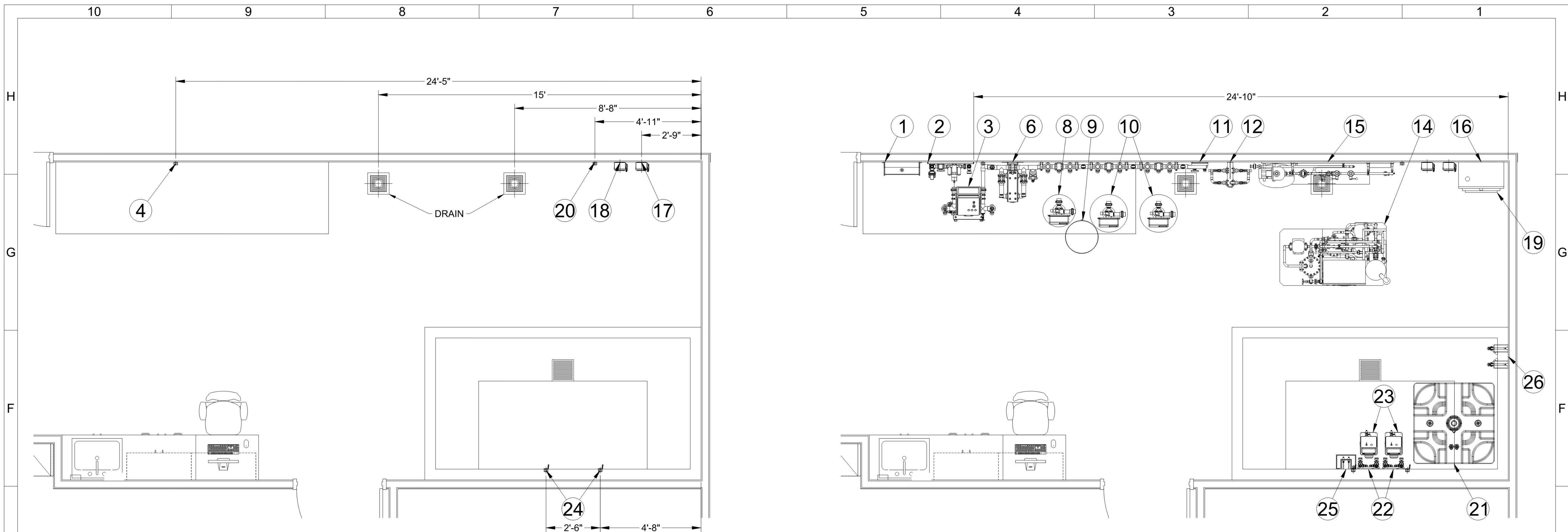
REVISIONS		
REV.	DESCRIPTION	DATE
A	PRELIMINARY	6/12/23

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

VENDOR  
DOCUMENTATION

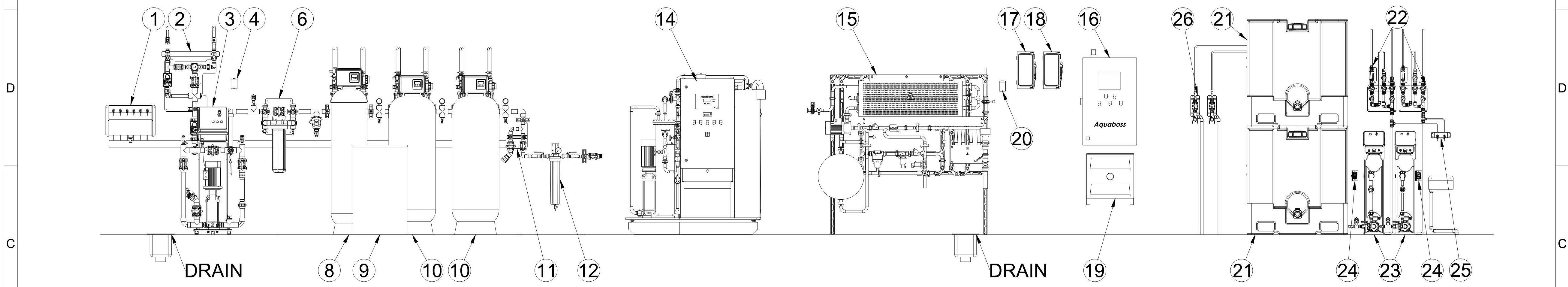
**ME-1.0**

**EP701**



**ELECTRICAL AND DRAIN PLAN**

**EQUIPMENT LAYOUT**



**ELEVATION VIEW**

- |   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>1 SAMPLING STATION LOCATION FINALIZED DURING INSTALLATION</li> <li>2 BLEND VALVE ANALOG</li> <li>3 BVA MUNICIPAL BOOST 217 LB</li> <li>4 TWIST LOCK DISCONNECT - 30 AMP STANDARD 3 WIRE CIRCUIT (L1, L2, GND) 220 VAC SINGLE PHASE 65" ABOVE FINISHED FLOOR (A.F.F)</li> <li>5 NOT USED</li> <li>6 DUAL BIG BLUE FILTER (75 lb)</li> <li>7 NOT USED</li> </ul> | <ul style="list-style-type: none"> <li>8 SOFTENER TANK 5 CU/FT OF RESIN PER TANK. 18" X 65" WEIGHT= 888 lb</li> <li>9 BRINE TANK- 18" X 33". WEIGHT 352 lb</li> <li>10 CARBON TANK 7 CU/FT OF CARBON. 21" X 62" WEIGHT= 1076 lb</li> <li>11 RO FEED AND DI EMERGENCY CONNECTION.</li> <li>12 PRE-RO FILTER UNIT 20" DUO. 1"</li> <li>13 NOT USED</li> <li>14 Eco RO Dia II 900 HT VOLTAGE= 3-N PE 208V CAPACITY= 11.54 kVA. CURRENT= 31 A FED BY DISCONNECT ITEM 17</li> </ul> | <ul style="list-style-type: none"> <li>15 HOT RINSE SMART 20 HYDRAULIC UNIT (327 lb)</li> <li>16 HOT RINSE CONTROLLER (181 lb). 3-N PE, 400v, 26 AMPS, FED BY DISCONNECT ITEM 18</li> <li>17 SAFETY DISCONNECT SWITCH - 60 AMP, 3-N PE 208v, LOAD APPROX. 10.0 KVA 5 WIRE CIRCUIT (L1, L2, L3, N, GND) 60 HZ. SEE NOTE ON PAGE ME-1.1</li> <li>18 SAFETY DISCONNECT SWITCH - 45 AMP, 3-N PE, 400v, LOAD APPROX. 10.0 KVA 5 WIRE CIRCUIT (L1, L2, L3, N, GND) 60 HZ. SEE NOTE ON PAGE ME-1.1</li> <li>19 22.5 KVA TRANSFORMER (275 lb). 3-N PE, 208v-400v DEMAND AMPS: PRIMARY 63, SECONDARY 26</li> <li>20 REMOTE ALARM CONNECTION. 2 EACH 18 GA, 7 CORE WIRES ADDITIONAL 15 FEET EACH. 24 VDC SUPPLIED BY RO/HRS CONTROLLER.</li> </ul> | <ul style="list-style-type: none"> <li>21 CONCENTRATE TANK PRIMARY (RED), SECONDARY (YELLOW)</li> <li>22 MANIFOLD, PRESSURE RELEASE.</li> <li>23 CONCENTRATE DISTRIBUTION SYSTEM WITH RUN DRY PROTECTIONS</li> <li>24 120v 20 AMP GFCI DUPLEX RECEPTACLE SURFACE MOUNTED, 24" A.F.F - SHARED CIRCUIT (BY E.C.) (SEE "ELECTRICAL DROPS" ON ME-1.1)</li> <li>25 CONCENTRATE LOOP SAMPLING STATION.</li> <li>26 CONCENTRATE TRANSFER STATION TO CONCENTRATE STORAGE TANK WITH DRAIN PURGE VALVE.</li> </ul> |
|---|--|--|--|

PROJECT NOTES:  
Please see files;



**SPECTRUM**  
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WEST VALLEY, UT. 84120

PROJECT:

REVISIONS

REV.	DESCRIPTION	DATE

REV.	DESCRIPTION	DATE

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

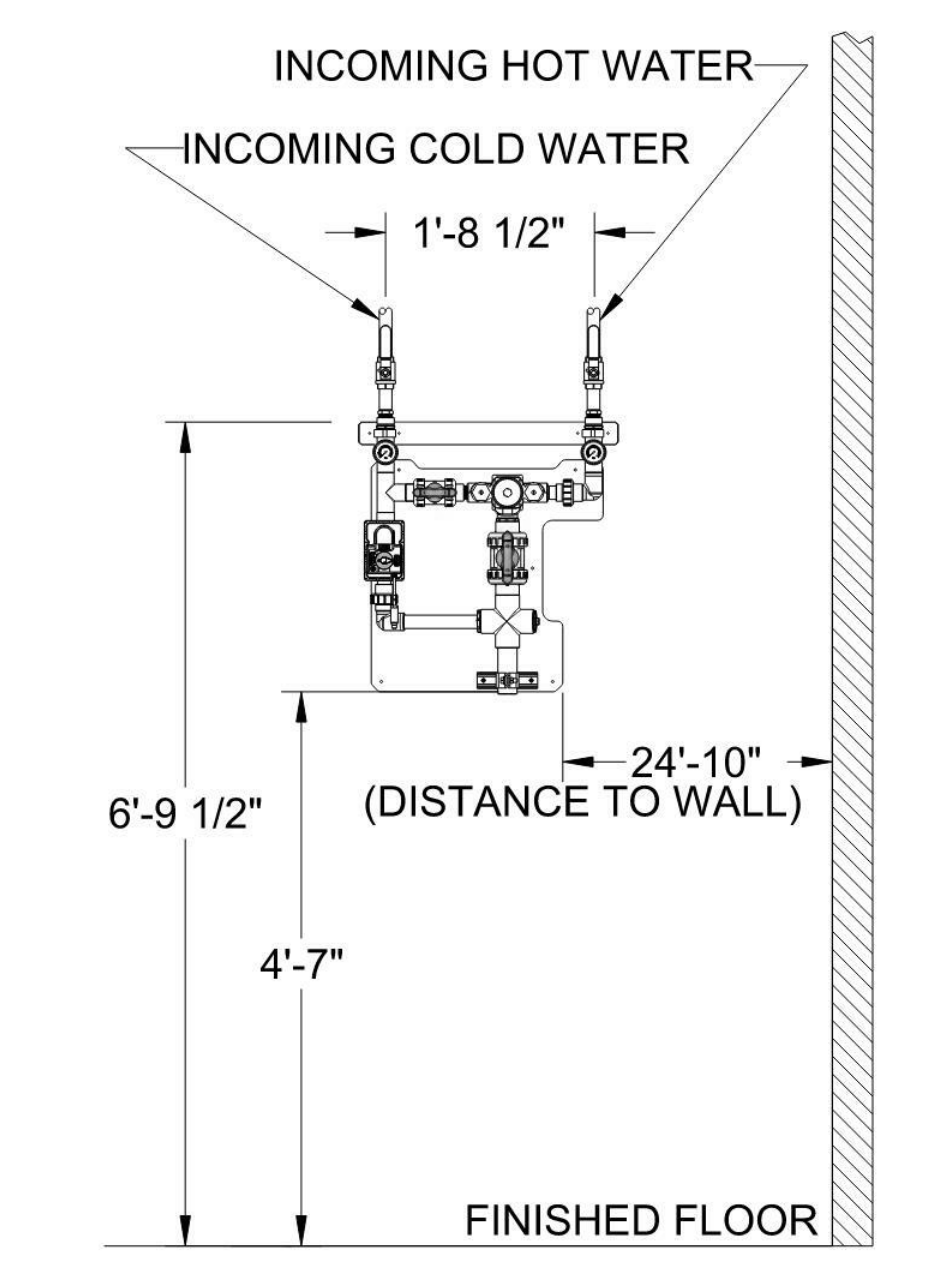
NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

VENDOR DOCUMENTATION

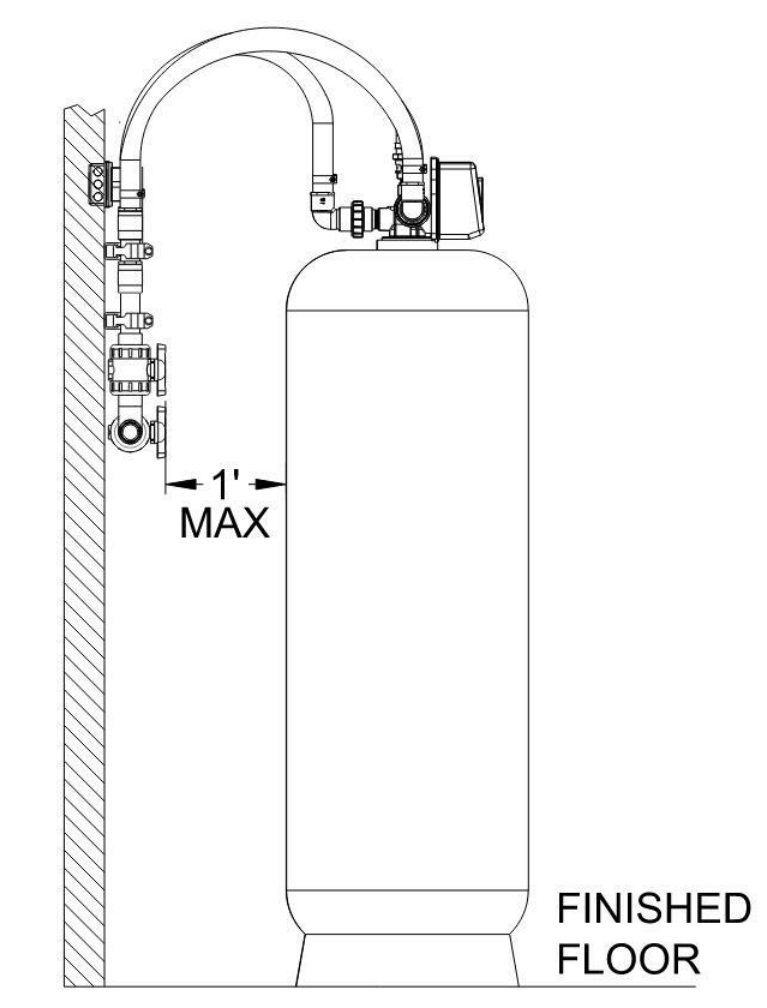
**ME-1.1**

**EP702**

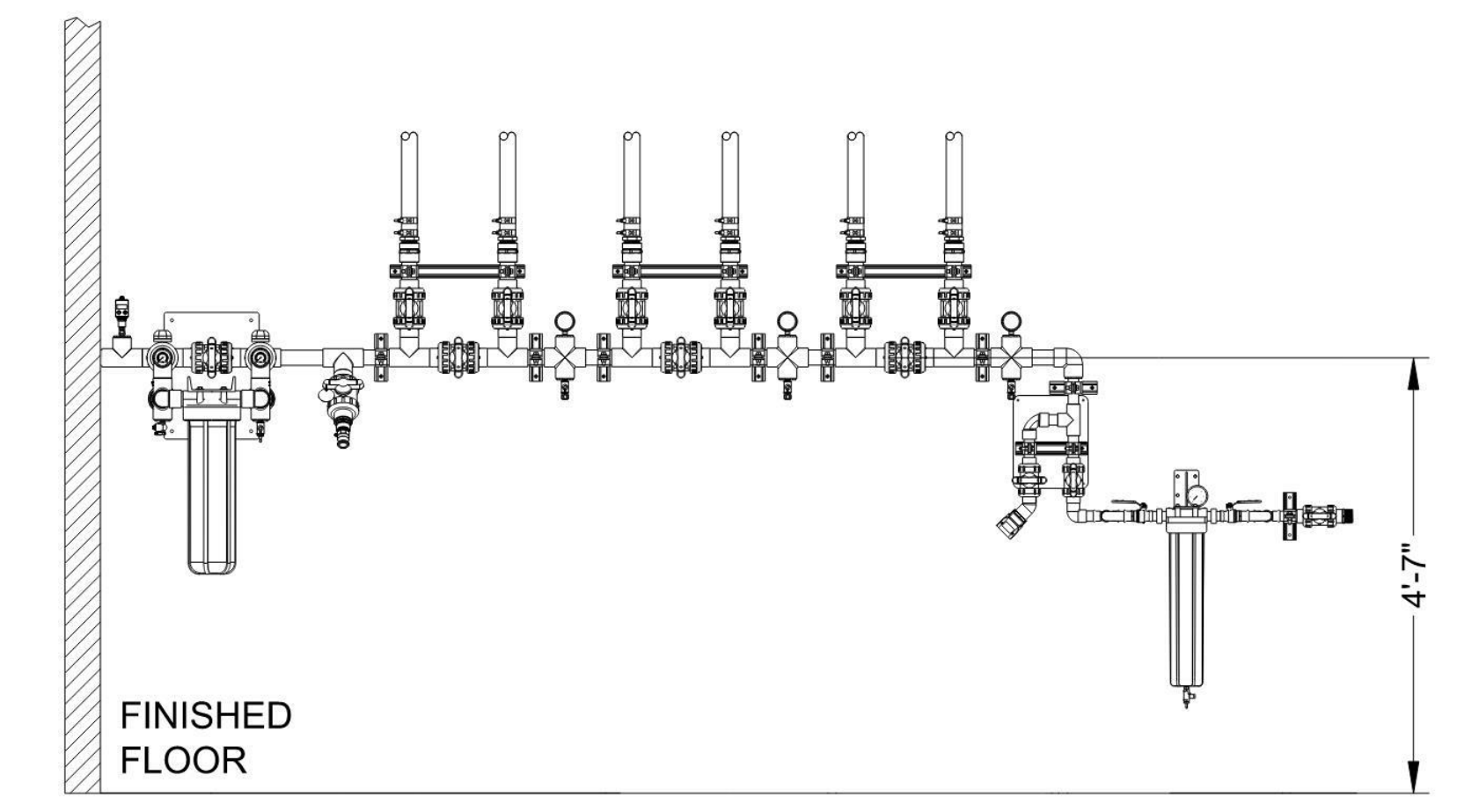
**PLUMBING NOTE:**  
INLET WATER LINES ABOVE CEILING.  
FINAL CONNECTIONS TO BE MADE (BY P.C.)  
AFTER BLEND VALVE IS INSTALLED.



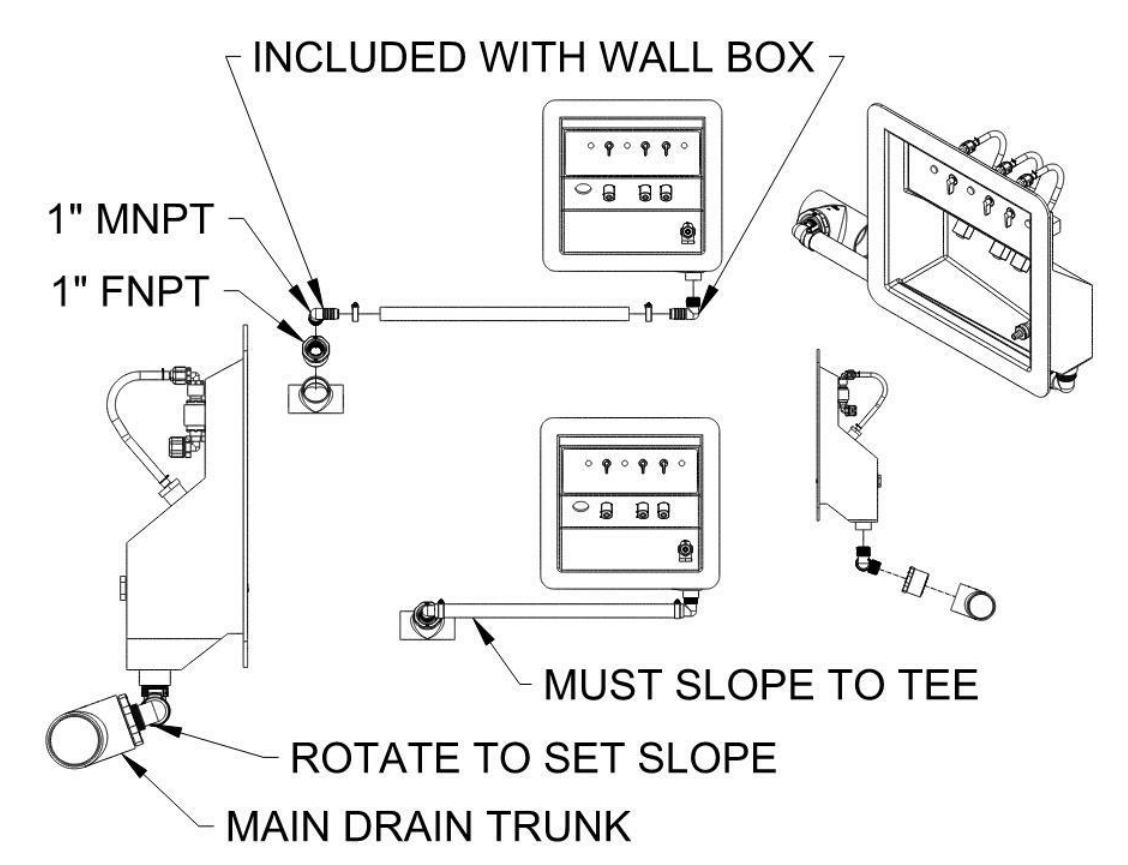
**BLEND VALVE LOCATION**



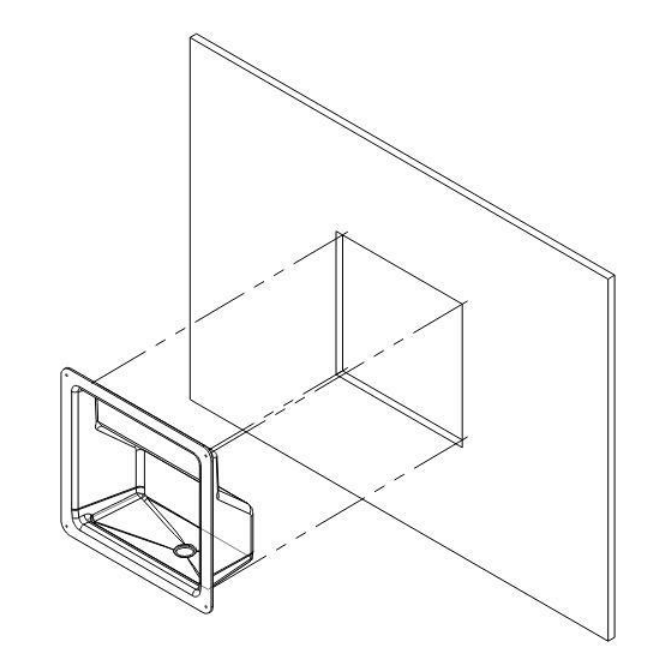
**TANK CLEARANCE**



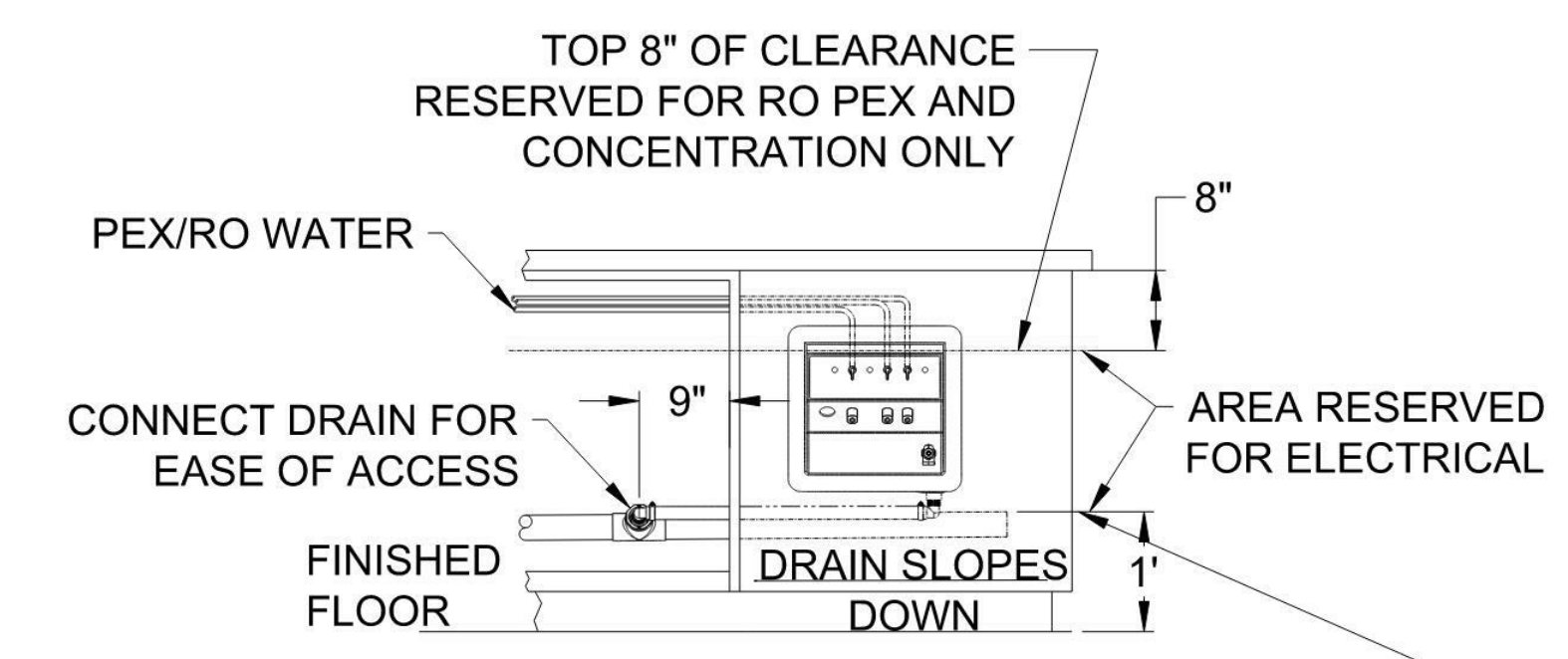
**TRUNK LINE LOCATION**



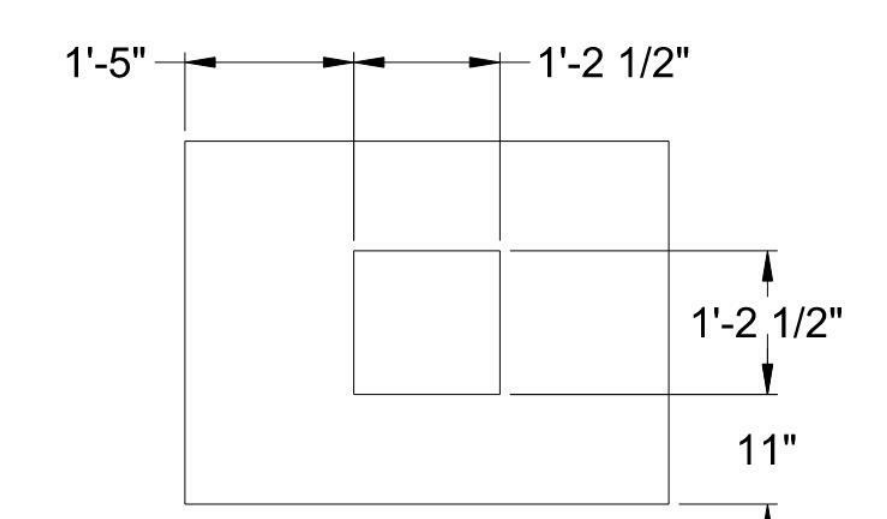
**WALL BOX DRAIN ATTACHMENT**



**WALL BOX ISO**



**WALL BOX DRAIN INSTALLATION**



**WALL BOX CUT OUT**

**ESTIMATED TRANSFORMER SIZING**

HRS SIZE	TRANSFORMER 208-400v	PRIMARY DEMAND AMPS 208v	SECONDARY DEMAND AMPS 400v	POST TRANSFORMER DISCONNECT	100 FT WIRE SIZE PRIMARY
20	22.5 kVA	63	26	45A	1 AWG
30	29 kVA	81	41	60A	1/0 AWG
40	38 kVA	106	54	60A	2/0 AWG
50	47 kVA	131	67	80A	3/0 AWG

HRS SIZE	TRANSFORMER 480-400v	PRIMARY DEMAND AMPS 480v	SECONDARY DEMAND AMPS 400v	POST TRANSFORMER DISCONNECT	100 FT WIRE SIZE PRIMARY
20	22.5 kVA	27	26	45A	8 AWG
30	29 kVA	34	41	60A	8 AWG
40	38 kVA	45	54	60A	6 AWG
50	47 kVA	57	67	80A	4 AWG

ALL INFORMATION OBTAINED WHILE USING THIS CHART SHOULD BE CONFIRMED BY A QUALIFIED ELECTRICAL CONTRACTOR OR ENGINEER.  
FUSED DISCONNECT MUST BE LOCATED BETWEEN THE TRANSFORMER AND HRS CONTROLLER.

**NOTES:**  
1.) MOUNTED 65" TO THE BOTTOM TO BE PROVIDED, INSTALLED, AND WIRED BY E.C. LOCATION SUBJECT TO CHANGE PER E.C. DISCONNECT ELECTRICAL DROPS TO BE COILED AT CEILING WITH 15'-0" OF COIL UNTIL PRE-TREATMENT VENDOR FINALIZES LOCATION. FINAL CONNECTION FROM DISCONNECT TO WATER SYSTEM TO BE MADE BY ELECTRICAL CONTRACTOR.

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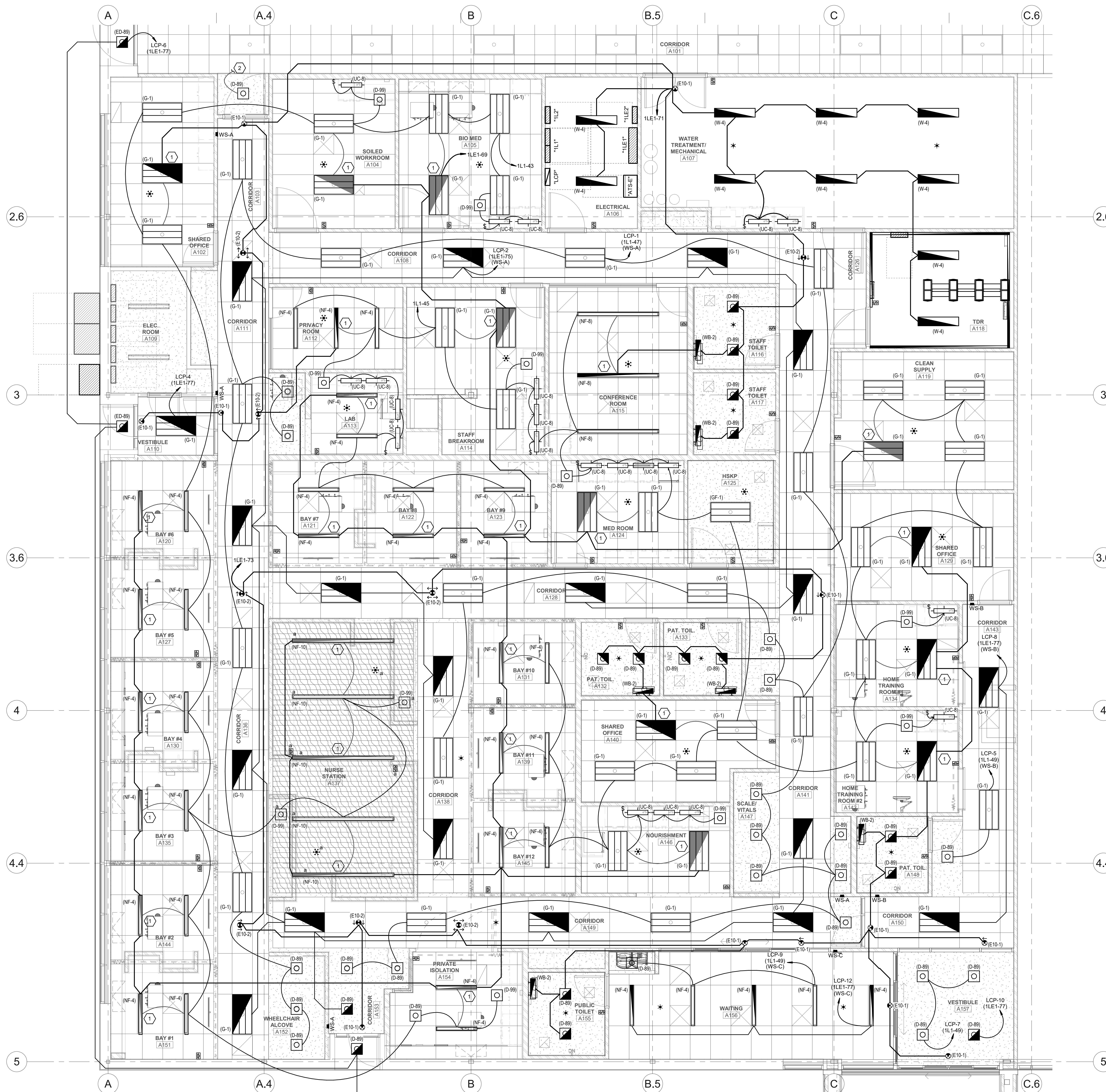
**SPECTRUM ENGINEERS**  
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801-328-5151  
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### GENERAL SHEET NOTES

- 1 PROVIDE LABELS ON ALL NEW DEVICES PER PROJECT SPECIFICATIONS CONFORMING WITH DIVISION 26 SPECIFICATIONS FOR IDENTIFICATION OF ELECTRICAL EQUIPMENT AND INTERMOUNTAIN'S DIVISION 27 SPECIFICATIONS PRIOR TO SUBSTANTIAL COMPLETION.
- 2 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

### SHEET KEYNOTES

- 1 PROVIDE LIGHT FIXTURE WITH GENERATOR TRANSFER DEVICE (BODINE GTD OR EQUIVALENT) DRIVE FIXTURE TO 100% UPON LOSS OF NORMAL POWER. PROVIDE NORMAL POWER CIRCUIT CONNECTION TO GTD DEVICE AHEAD OF SWITCHING FOR DETECTION OF LOSS OF POWER ONLY.
- 2 CONNECT TO EXISTING NORMAL POWER LIGHTING BRANCH CIRCUIT SERVING EXISTING CORRIDOR LIGHT FIXTURES.



**A1 LEVEL 1 LIGHTING PLAN**  
SCALE: 1/4" = 1'-0"

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

NJRA Project # 22211.05  
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LEVEL 1  
LIGHTING  
PLAN

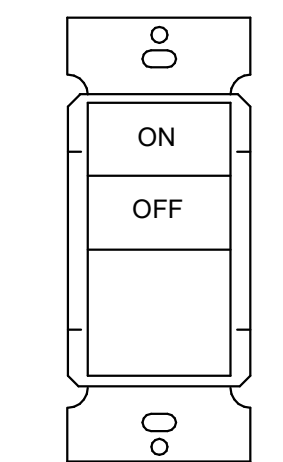
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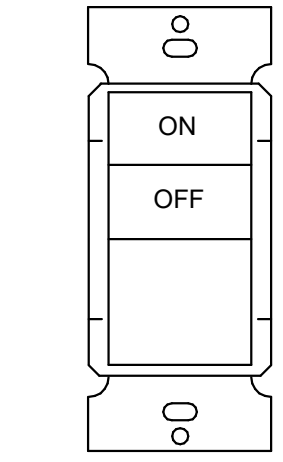
**LIGHTING FIXTURE SCHEDULE**

NOTE TO BIDDERS: COMPLY WITH THE SPECIFICATIONS. REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT; HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADDIETLE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMPS) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

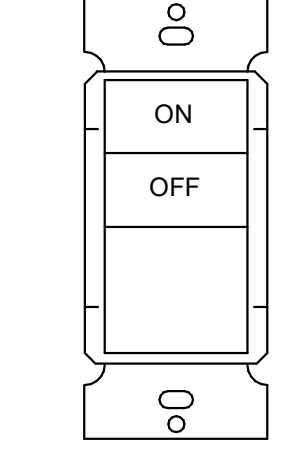
SYMBOL	MARK	FIXTURE CHARACTERISTICS	LAMP	WATTS	VOLTS	MANUFACTURER	NOTES
D		RECESSED LED: SOLID STATE LED LIGHT ENGINE, CLASS P THERMALLY PROTECTED 0-10V SOLID STATE DIMMING DRIVER; MINIMUM SYSTEM RATED LIFE 50,000 HOURS AT 70% OUTPUT; UL LISTED FOR THROUGH-BRANCH WIRING AND DAMP LOCATION; LIGHT ENGINE, DRIVER, AND JUNCTION BOX ACCESSIBLE FROM ABOVE OR BELOW CEILING; SELF-FLANGING TRIM.	LED	20W	UNV	LIGHTOLIER PRESOLITE HALO LITHONIA LITON GOTHAM PORTFOLIO	6-RNPR-DL-15-835-CD-Z10-U LTR-6RD-H-SL15L-DM1 / LTR-6RD-T-SL-35K-8-MD-SS-WT HC6-15-D010-HM6-12-835-61-MD-H-WF LDN6-35/15-L06-AR-LSS-MVOLT-GZ10-TRW CH618-UE10/CR622-SW-T35-UE-D10P1
D-89		6" APERTURE; COMFORT CLEAR DIFFUSER; 3500 K COLOR TEMP LED; ~1500 LUMENS; 20 INPUT WATTS; 0-10V SOLID STATE DIMMING DRIVER; LENS, WHITE FLANGE.	LED	20W	UNV	LIGHTOLIER PRESOLITE HALO LITHONIA LITON GOTHAM PORTFOLIO	6-RNPR-DL-15-835-CD-Z10-U LTR-6RD-H-SL15L-DM1 / LTR-6RD-T-SL-35K-8-MD-SS-LW-WT HC6-15-D010-HM6-12-835-61-MD-H LDN6-35/15-L06-AR-LSS-MVOLT-GZ10-TRW CH618-UE10/CR622-SS-T35
D-89S		6" APERTURE; COMFORT CLEAR DIFFUSER; 3500 K COLOR TEMP LED; ~1500 LUMENS; 20 INPUT WATTS; 0-10V SOLID STATE DIMMING DRIVER; LENS, CUSTOM COLOR TRIM (BY ARCHITECT)	LED	20W	UNV	LIGHTOLIER PRESOLITE HALO LITHONIA LITON GOTHAM PORTFOLIO	6-RNPR-DL-15-835-CD-P-Z10-U LTR-6RD-H-SL15L-DM1 / LTR-6RD-T-SL-35K-8-MD-SS-LW-WT HC6-15-D010-HM6-12-835-61-MD-H LDN6-35/15-L06-AR-LSS-MVOLT-GZ10-TRW CH618-UE10/CR622-SS-T35
D-89		6" APERTURE; COMFORT CLEAR DIFFUSER; 3500 K COLOR TEMP LED; 3000 LUMENS; ~30 INPUT WATTS; 0-10V SOLID STATE DIMMING DRIVER; LENS, WHITE FLANGE. (FINAL COLOR BY ARCHITECT)	LED	30W	UNV	LIGHTOLIER PRESOLITE HALO LITHONIA LITON GOTHAM PORTFOLIO	6-RNPR-DL-30-835-CD-Z10-U LTR-6RD-H-SL30L-DM1 / LTR-6RD-T-SL-35K-8-MD-SS-WT HC6-30-D010-HM6-12-835-61-MD-H-WF LDN6-35/30-L06-AR-LSS-MVOLT-GZ10-TRW
E10		EXIT SIGN; METAL HOUSING; CEILING MOUNT; SEE DRAWINGS; ARROWS PER PLANS; LED LAMPS; A/C ONLY; EDGE LIGHTED CLEAR LENS; GREEN LETTERS ON CLEAR BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS. UNITS SHOWN ARE CEILING MOUNT MODELS. CONTRACTOR TO PROVIDE MATCHING LOW LEVEL WALL MOUNTED UNITS WHERE REQUIRED.	LED	3W	120/277V	SURELIGHTS EUX6-1-G DUAL-LITE ISOLITE	LE-C-S-G-(ARROWS PER PLANS)-N-A UEL-AC-G-1C2M-MTEBR
E10-1		SINGLE FACE:	LED	3W	120/277V	SURELIGHTS DUAL-LITE ISOLITE	LE-C-S-G-(ARROWS PER PLANS)-N-A UEL-AC-G-1C2M-MTEBR
E10-2		DUAL FACE:	LED	3W	120/277V	SURELIGHTS DUAL-LITE ISOLITE	LE-C-S-G-(ARROWS PER PLANS)-N-A UEL-AC-G-1C2M-MTEBR
G		DECORATIVE LENSED TROFFERS; RECESSED; ACRYLIC PRISMATIC LENS; EARTHQUAKE CLIPS, LED DRIVER 0-10 VOLT DIMMING DRIVER WHERE INDICATED IN PRODUCT NUMBER.	LED	35W	UNV	DAY-BRITE METALLUX LITHONIA LITETRONICS VISCOR	2EVG48L835-4-D-UNV-DIM-AG 24C22-50-UNV-L835-CD-1-AM-U 2VTL4-4BL-ADP-EZ1-LP835 VLT43540 LRT-F-2X4-LED-8-35K-052LC-F37
G-1		RECESSED LED FIXTURE, 2X4, ACRYLIC DIFFUSER, ~4800 LUMENS, MULTI VOLT, 3500K, GRID MOUNTED, MINIMUM 82 CRI (~7" WIDE LENS); ANTIMICROBIAL FINISH	LED	35W	UNV	DAY-BRITE METALLUX LITHONIA LITETRONICS VISCOR	2EVG48L835-4-D-UNV-DIM-AG 24C22-50-UNV-L835-CD-1-AM-U 2VTL4-4BL-ADP-EZ1-LP840 VLT23540 LRT-F-2X2-LED-8-35K-038L-UNV-F37
G-2		RECESSED LED FIXTURE, 2X2, ACRYLIC DIFFUSER, ~4000 LUMENS, MULTI VOLT, 3500K, GRID MOUNTED, MINIMUM 82 CRI (~7" WIDE LENS); ANTIMICROBIAL FINISH	LED	35W	UNV	DAY-BRITE METALLUX LITHONIA LITETRONICS VISCOR	2EVG48L835-4-D-UNV-DIM-AG 22C22-35-UNV-L840-CD-1-AM-U 2VTL2-35L-ADP-EZ1-LP840 VLT23540 LRT-F-2X2-LED-8-35K-038L-UNV-F37
GF		DIRECT TROFFERS; RECESSED FOR GYPSUM BOARD CEILING; HINGED FLUSH STEEL DOOR WITH LATCH; EARTHQUAKE CLIPS, SOLID STATE LED LIGHT ENGINE; CLASS P THERMALLY PROTECTED 0-10V SOLID STATE DIMMING DRIVER; MINIMUM SYSTEM RATED LIFE 50,000 HOURS AT 70% OUTPUT; LISTED FOR THROUGH-BRANCH WIRING AND DAMP LOCATION; DRIVER DISCONNECT PER NEC 410.130 (G)	LED	40W	UNV	METALLUX DAYBRITE TRULY GREEN COLUMBIA LITHONIA	24FP47502 / DF-24W-U 2FP2-48L-835-4-DS-UNV-DIM / FMA24 852440-35-S-F / 8824-FMK CFP24-5541/3435-FK24 EPANL-2x4-4800LM-80CRI-35K-MIN1-ZT-MVOLT
NF		NARROW APERTURE LED FIXTURES; RECESSED LINEAR FIXTURE; STATIC; EARTHQUAKE CLIPS, INSTALLED ON GRID FIXTURES; OPAQUE ACRYLIC LENS	LED	32W	UNV	PINNACLE AXIS MARK ARCH NEORAY	EV4D-A-835VHO-8-XXX(U)-U-PL2-1-0-W BMRLED-1000-80-35-FL-4-W-UNV-DP-1-XXX SL4L-LOP-4FT-FLP-XX-80CRI-35K-1000LMF-MIN1-277-ZT S124DR-S-1020D-8-35-XXX-4F-1-U-DD-F-W
NF-4		4" X 48" GRID MOUNTED; FLUSH SATIN LENS, LED, 0-10V DIMMING; ~1000 LUMENS PER LINEAR FOOT; 3500K; ~8W/LF	LED	32W	UNV	PINNACLE AXIS MARK ARCH NEORAY	EV4D-A-835VHO-8-XXX(U)-U-PL2-1-0-W BMRLED-1000-80-35-FL-4-W-UNV-DP-1-XXX SL4L-LOP-4FT-FLP-XX-80CRI-35K-1000LMF-MIN1-277-ZT S124DR-S-1020D-8-35-XXX-4F-1-U-DD-F-W
NF-8		4" X 96" GRID MOUNTED; FLUSH SATIN LENS, LED, 0-10V DIMMING; ~1000 LUMENS PER LINEAR FOOT; 3500K; ~8W/LF	LED	64W	UNV	PINNACLE AXIS MARK ARCH NEORAY	EV4D-A-835VHO-8-XXX(U)-U-PL2-1-0-W BMRLED-1000-80-35-FL-8-W-UNV-DP-1-XXX SL4L-LOP-8FT-FLP-XX-80CRI-35K-1000LMF-MIN1-277-ZT S124DR-S-1020D-8-35-XXX-8F-1-U-DD-F-W
NF-10		4" X 120" GRID MOUNTED; FLUSH SATIN LENS, LED, 0-10V DIMMING; ~1000 LUMENS PER LINEAR FOOT; 3500K; ~8W/LF	LED	80W	UNV	PINNACLE AXIS MARK ARCH NEORAY	EV4D-A-835VHO-10-XXX(U)-U-PL2-1-0-W BMRLED-1000-80-35-FL-10-W-UNV-DP-1-XXX SL4L-LOP-10FT-FLP-XX-80CRI-35K-1000LMF-MIN1-277-ZT S124DR-S-1020D-8-35-XXX-10F-1-U-DD-F-W
UC		LED UNDERCABINET LIGHT; LOW PROFILE 1" HIGH X 1-3/4" DEEP X LENGTH AS NOTED; EXTRUDED ALUMINUM BODY; EXTRUDED CLEAR, POLYCARBONATE LENS; INTERNAL LED DRIVER; EFFICACY GREATER THAN 40 LUMENS PER WATT; 50,000 HOUR RATED LAMP LIFE; 2700 - 3000 DEG KELVIN COLOR TEMPERATURE, WIRING COMPARTMENT; FLUSH END. CONNECTORS FOR ROW INSTALLATION (CONNECTORS ARE NOT INCLUDED IN THE FIXTURE SCHEDULE CATALOG NUMBERS - CONNECTOR CONFIGURATION TO BE FIELD DETERMINED BY CONTRACTOR PRIOR TO PURCHASE)	LED	5W	UNV	DAY-BRITE AIREY THOMPSON KELVIX	LINCS100E-L19-935-UNV-SWH-DIM-LINCS100CSW UCL-2-LD4-35-A12125-ED1D1-UNV-AM UC22-3035-010V-120277-WHM / UC-HW / UC-JP-6-SET
UC-8		SURFACE MOUNTED UNDERCABINET LIGHT FIXTURE, LED, 19" NOMINAL LENGTH, WHITE ANTIMICROBIAL FINISH, UNIVERSAL VOLTAGE, ~400 LUMENS, PROVIDE INTERCONNECT CORDS BETWEEN FIXTURES FOR SERIAL MOUNTED INSTALLATIONS	LED	5W	UNV	DAY-BRITE AIREY THOMPSON KELVIX	LINCS100E-L19-935-UNV-SWH-DIM-LINCS100CSW UCL-2-LD4-35-A12125-ED1D1-UNV-AM UC22-3035-010V-120277-WHM / UC-HW / UC-JP-6-SET
W		LOW PROFILE WRAPAROUND; SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILING; CURVED ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; LED.	LED	45W	UNV	KENALL CERTOLUX NEWSTAR LITHONIA	MLRS12-48-F-MW-PP-1-45L-35K-DCC-1-DV VRSE-3556-48-LED-8-35K-048L-UNV VIG-4-W-4.35-1C-RW-UNV-WH-DM VPF12-4FT-MIN1-50W-35K-MVOLT-OP-WHT
W-4		WIDE BODY WRAPAROUND; LED, ~5000 LUMENS	LED	45W	UNV	KENALL CERTOLUX NEWSTAR LITHONIA	MLRS12-48-F-MW-PP-1-45L-35K-DCC-1-DV VRSE-3556-48-LED-8-35K-048L-UNV VIG-4-W-4.35-1C-RW-UNV-WH-DM VPF12-4FT-MIN1-50W-35K-MVOLT-OP-WHT
WB		WALL MOUNTED FIXTURE; AS INDICATED ON DRAWINGS; WITH ACRYLIC DIFFUSER; LED WITH INTEGRAL DRIVER;	LED	30W	UNV	MARK ARCH PINNACLE STARTEK FINELITE NULITE	S2LWID-LCB-2FT-80CRI-35K-800LMF-80CRI-400K- ~800LMF-AS-MIN1-SCT-MVOLT-WHT-ZT EXCDA-WHE-835HO-835HO-2-WA-U-PL2-1-0-W SLIMD-2-750-750-SD-CL-35K-80-PW-MM-U HP2WM-ID-2-4-H-V-835-TG-F-96LG-277-SC-FC-10%- MB-FE-SW RW2-4-8-09-L35-UNV-D-11-FRF-WH-2-DG
WB-2		WALL MOUNTED LED LINEAR FIXTURE; 2" WIDE X 24" LONG; UP AND DOWN LIGHTING (~800 LPF/800 LPF); DUST COVER MOUNT FIXTURE MINIMUM 12" BELOW CEILING	LED	30W	UNV	MARK ARCH PINNACLE STARTEK FINELITE NULITE	S2LWID-LCB-2FT-80CRI-35K-800LMF-80CRI-400K- ~800LMF-AS-MIN1-SCT-MVOLT-WHT-ZT EXCDA-WHE-835HO-835HO-2-WA-U-PL2-1-0-W SLIMD-2-750-750-SD-CL-35K-80-PW-MM-U HP2WM-ID-2-4-H-V-835-TG-F-96LG-277-SC-FC-10%- MB-FE-SW RW2-4-8-09-L35-UNV-D-11-FRF-WH-2-DG



**3 - (WS-C)**  
SCALE: NTS



**2 - (WS-B)**  
SCALE: NTS



**1 - (WS-A)**  
SCALE: NTS

**LIGHTING RELAY PANEL "LCP"**

LOCATION: ELECTRICAL A106      MOUNTING: SURFACE      ENCLOSURE: NEMA 1

RELAY	DIMMING	PANEL CIRCUIT	DESCRIPTION	CONTROL CHANNEL	LOAD (WATTS)	CONTROL CHANNEL	DESCRIPTION	PANEL CIRCUIT	DIMMING	RELAY
1	--	1L1-47	CORRIDOR LIGHTING	--	10, 670	--	CORRIDOR LIGHTING	1LE1-76	--	2
3	--	--	SPARE	--	0 40	--	LCP LIGHTING	1LE1-77	--	4
5	--	1L1-49	LIGHTING CORRIDOR A143	--	70 180	--	OUTDOOR LIGHTING	1LE1-77	--	6
7	--	1L1-49	LIGHTING VESTIBULE A157	90 80	--	--	LIGHTING ROOM A150, A143	1LE1-77	--	8
9	--	1L1-49	LIGHTING WAITING A156	--	94 30	--	LIGHTING VESTIBULE A157	1LE1-77	--	10
11	--	1L1-49	SIGNAGE LIGHTING	--	400 96	--	LIGHTING WAITING A156	1LE1-77	--	12
13	--	--	SPARE	--	0 0	--	SPARE	--	--	14
15	--	--	SPARE	--	0 0	--	SPARE	--	--	16
17	--	--	SPARE	--	0 0	--	SPARE	--	--	18
19	--	--	SPARE	--	0 0	--	SPARE	--	--	20
21	--	--	SPARE	--	0 0	--	SPARE	--	--	22
23	--	--	SPARE	--	0 0	--	SPARE	--	--	24
25	--	--	SPARE	--	0 0	--	SPARE	--	--	26
27	--	--	SPARE	--	0 0	--	SPARE	--	--	28
29	--	--	SPARE	--	0 0	--	SPARE	--	--	30

NOTES:  
1) PROVIDE TIME CLOCK PROGRAMMING OF INTERIOR LIGHTING PER OWNER DIRECTION.  
2) PROVIDE TIME CLOCK PROGRAMMING AND PHOTOCCELL OVERRIDE OF EXTERIOR LIGHTING PER OWNER DIRECTION.

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INTERIOR  
LIGHTING  
FIXTURE  
SCHEDULE

EL601

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**1 LEVEL 1 TELECOM PLAN**  
SCALE: 1/4" = 1'-0"

**GENERAL SHEET NOTES**

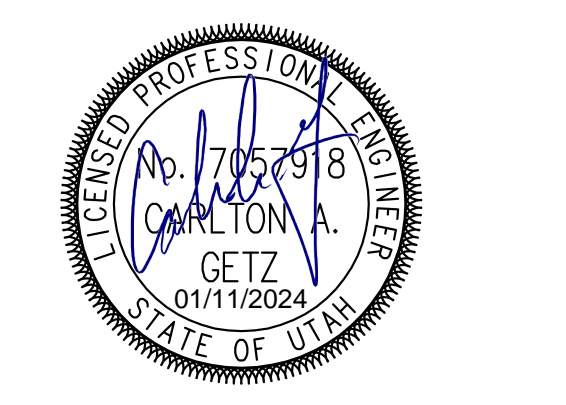
- 1 PROVIDE LABELS ON ALL NEW DEVICES PER PROJECT SPECIFICATIONS CONFORMING WITH DIVISION 26 SPECIFICATIONS FOR IDENTIFICATION OF ELECTRICAL EQUIPMENT AND INTERMOUNTAIN'S DIVISION 27 SPECIFICATIONS PRIOR TO SUBSTANTIAL COMPLETION.
- 2 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

**SHEET KEYNOTES**

- 1 COORDINATE EXACT TERMINATION LOCATION OF DATA DEVICE IN OPEN CEILING SPACE WITH ELECTRICAL INSTALLER.



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324 S. State St., Suite 400  
Salt Lake City, UT 84111  
801-478-7077  
801-328-5151  
Fax: 801-328-5155  
www.spectrum-engineers.com

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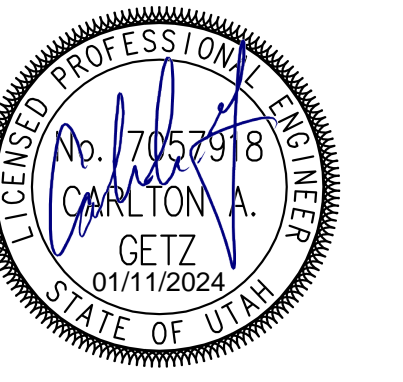
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Construction Documents Jan. 15, 2024

LEVEL 1  
TELECOM  
PLAN

ET101

PRINT AND VIEW SHEET IN COLOR FOR CLARITY



**1 LEVEL 1 RACEWAY PLAN**  
SCALE: 1/4" = 1'-0"

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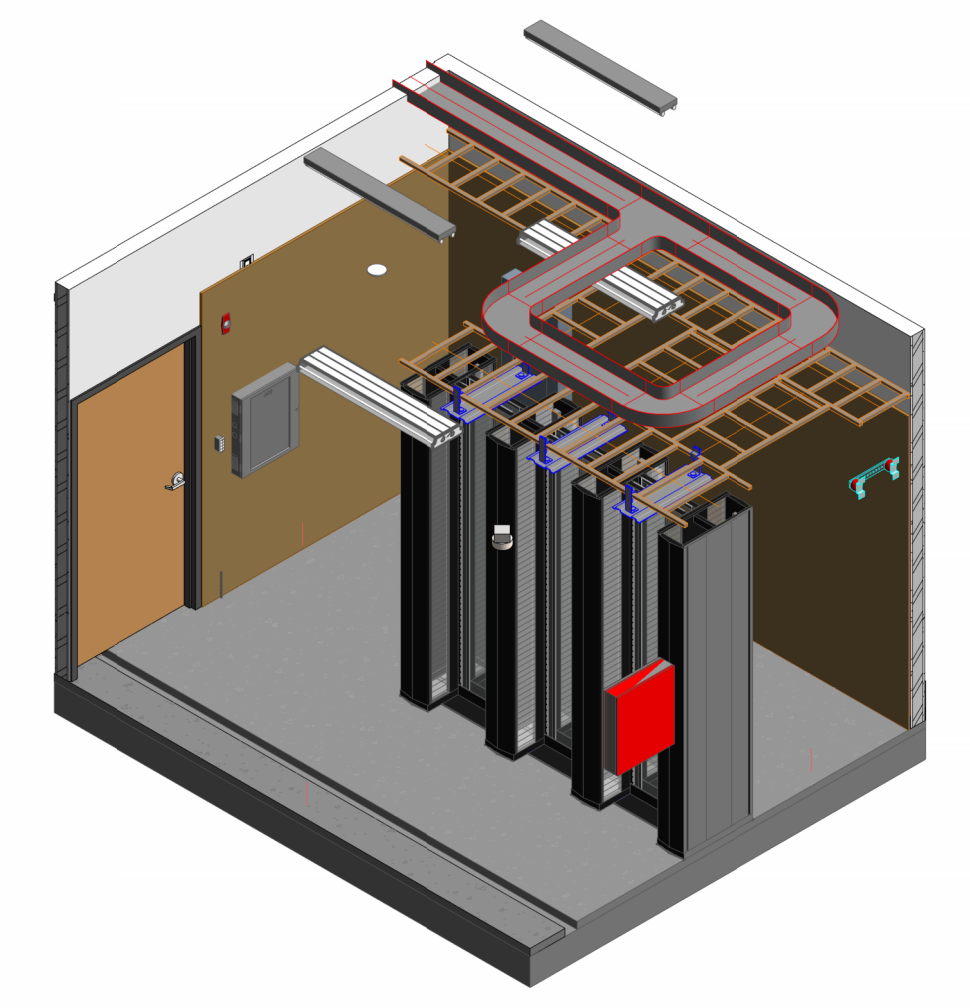
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LEVEL 1  
OVERALL  
RACEWAY  
PLAN

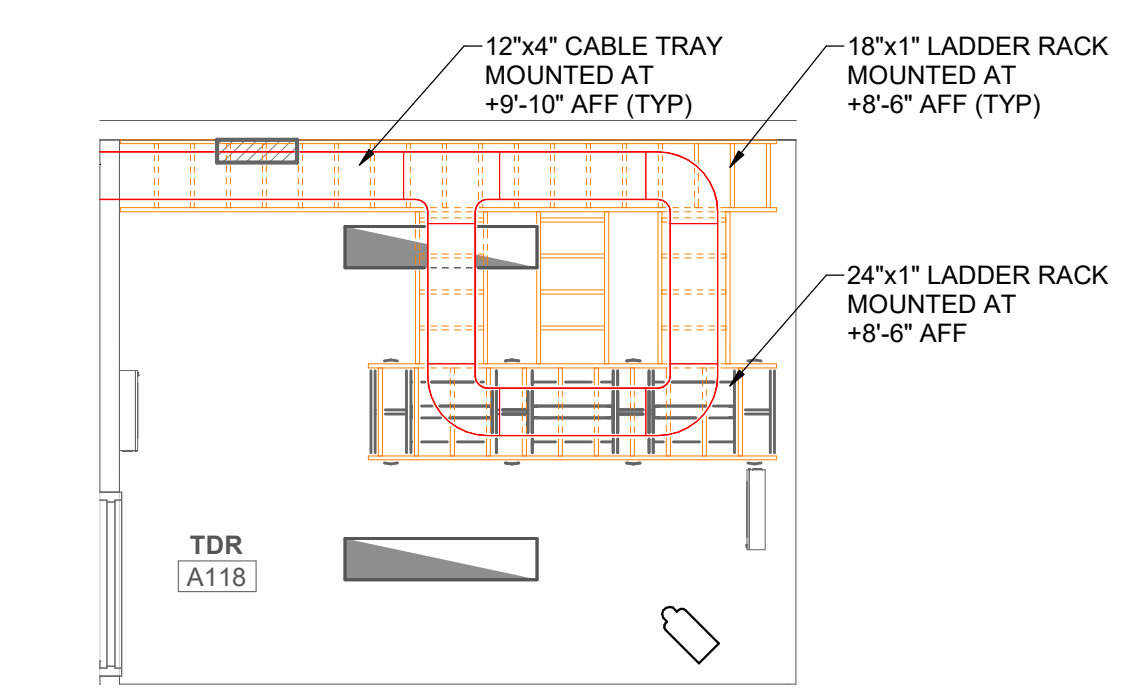
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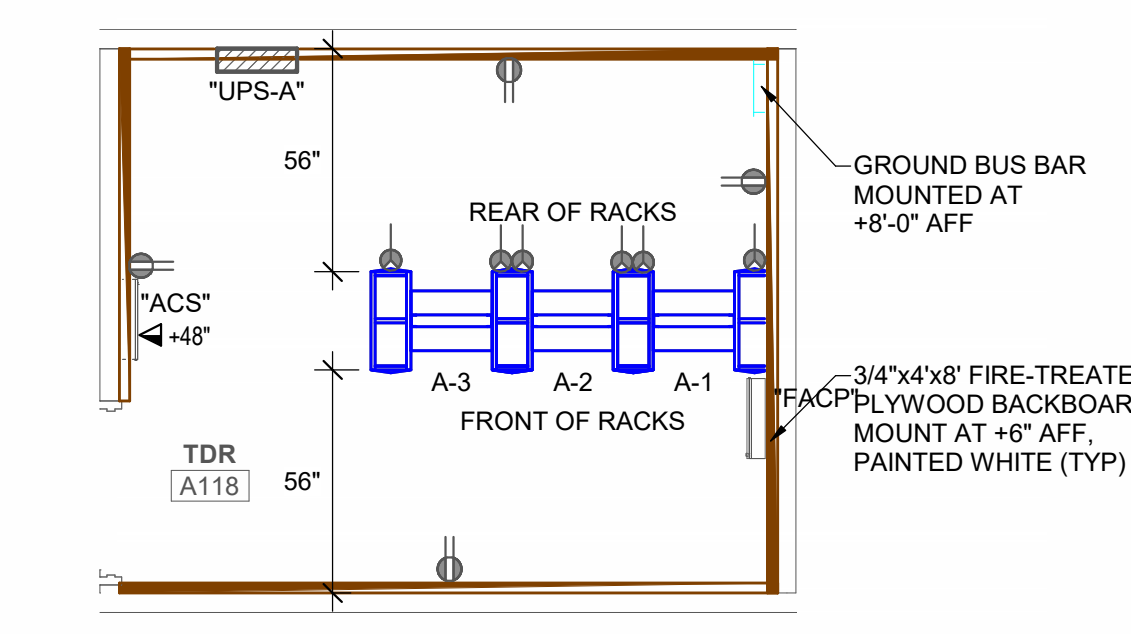




**3 TDR A118 ISOMETRIC PLAN**  
SCALE:



**2 ENLARGED TDR A118 LADDER RACK PLAN**  
SCALE: 1/4" = 1'-0"



**1 ENLARGED TDR A118 EQUIPMENT RACK PLAN**  
SCALE: 1/4" = 1'-0"

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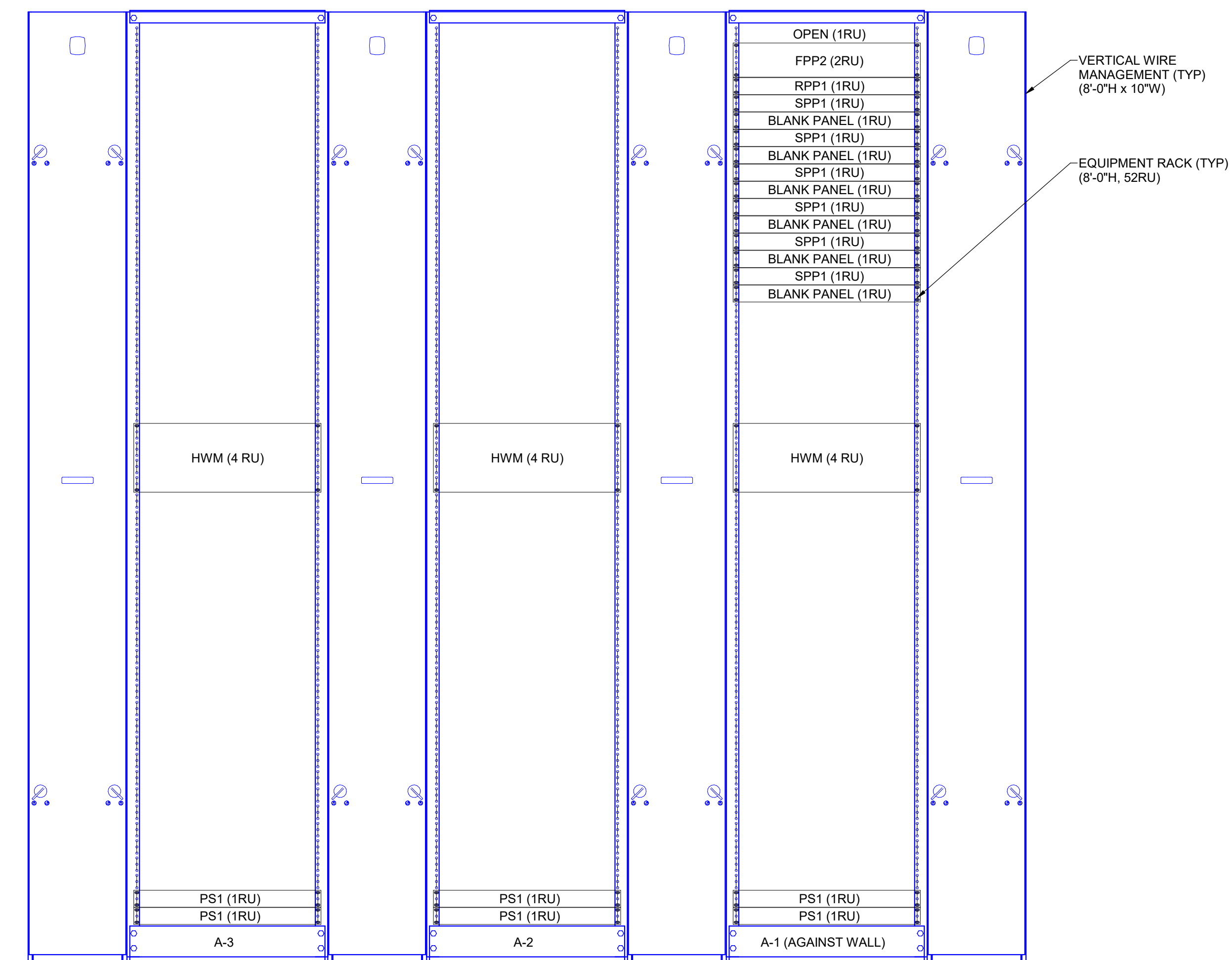
ENLARGED  
TELECOM  
PLANS

ET401

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DATA DEVICE DROP SCHEDULE - TDR A118				
DATA DEVICE TYPE	DETAIL LOCATION	COMM ROOM LOCATION	TOTAL BY FLOOR	Num of Drops
Level 1				
CEILING DATA (2-DROP)	SEE DETAIL 7/ET502	TDR A118	15	30
CEILING DATA - CAMERA (1-DROP)	SEE DETAIL 5/ET502	TDR A118	15	15
CEILING WIRELESS ACCESS POINT (2-DROP)	SEE DETAIL 6/ET502	TDR A118	10	20
FLOOR DATA (2-DROP)	SEE DETAIL 3/ET502	TDR A118	1	2
WALL DATA (1-DROP)	SEE DETAIL 2/ET502	TDR A118	3	3
WALL DATA (2-DROP)	SEE DETAIL 3/ET502	TDR A118	62	124
WALL DATA (4-DROP)	SEE DETAIL 4/ET502	TDR A118	7	28
WALL DATA - ABOVE COUNTER (2-DROP)	SEE DETAIL 3/ET502	TDR A118	8	16
WALL DATA - ALERTUS (1-DROP)	SEE DETAIL 2/ET502	TDR A118	1	1
WALL DATA - KRONOS (1-DROP)	SEE DETAIL 2/ET502	TDR A118	1	1
<b>Grand Total</b>			<b>123</b>	<b>240</b>



**1** TYPICAL EQUIPMENT RACK ELEVATION DETAIL, LEVEL 01, TDR A118  
SCALE: NTS

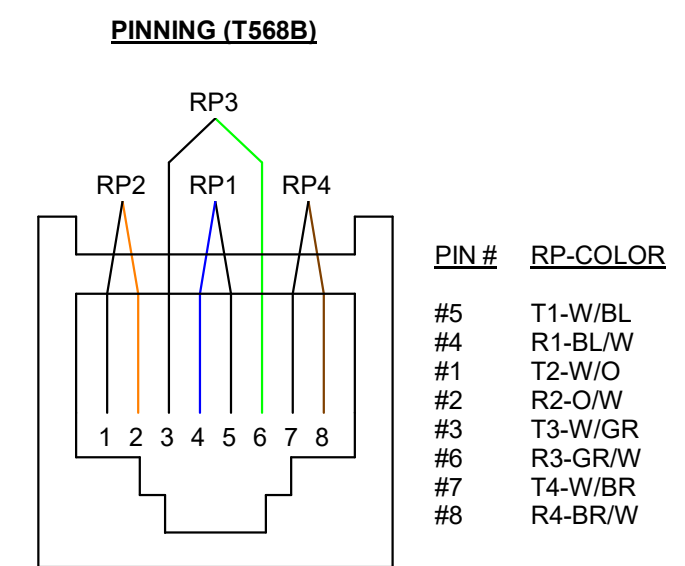
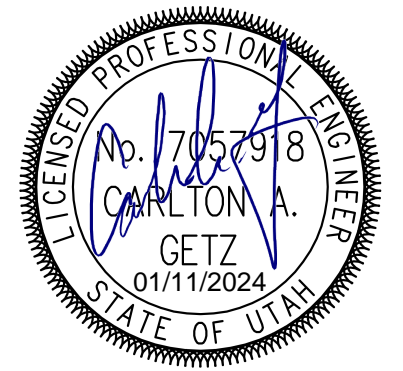
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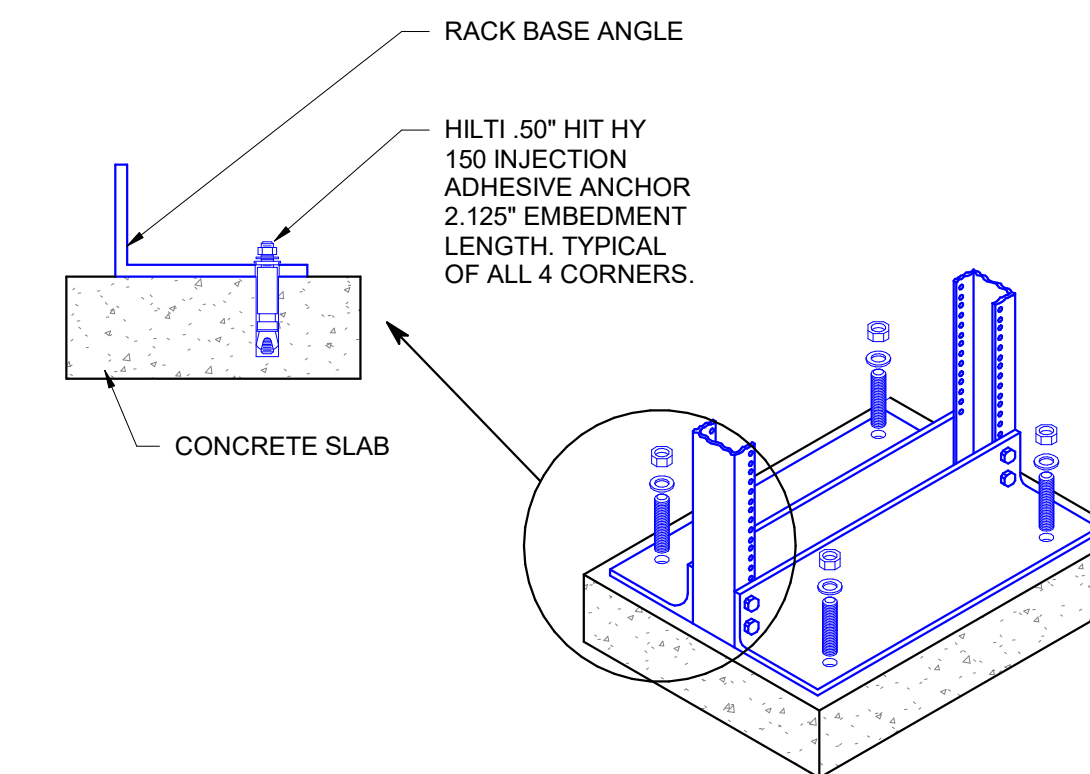
NJRA Project # 22211.05  
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TELECOM  
EQUIPMENT  
RACK  
ELEVATIONS

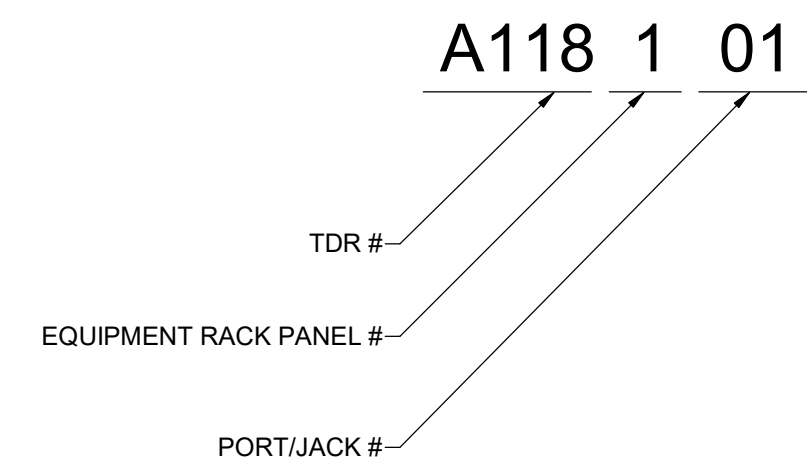
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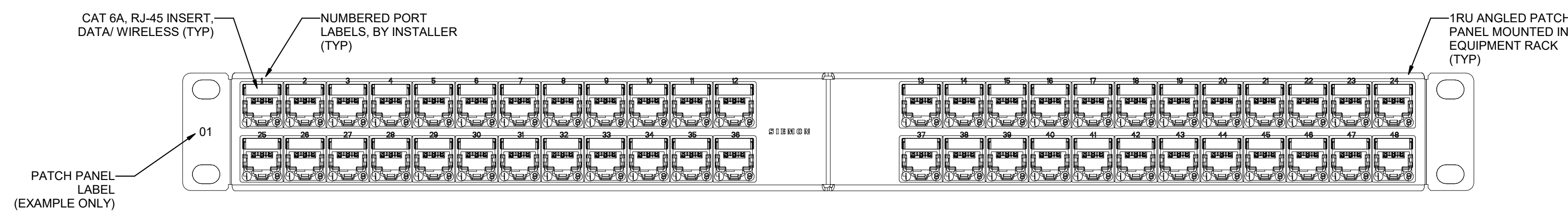
**9** TYPICAL VOICE/DATA OUTLET PINNING DETAIL  
SCALE: NTS



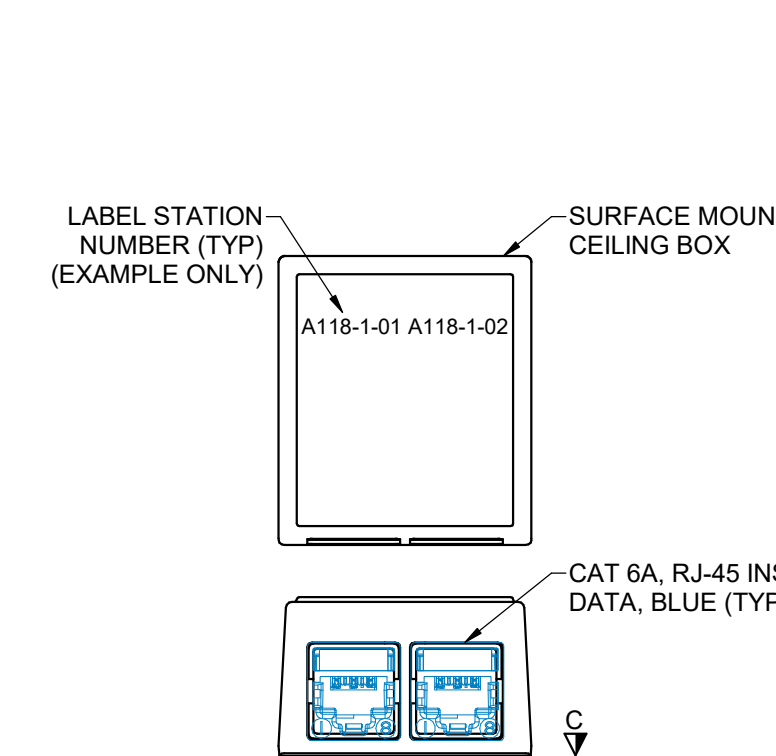
**10** TYPICAL EQUIPMENT RACK SUPPORT DETAIL  
SCALE: 1/8" = 1'-0"



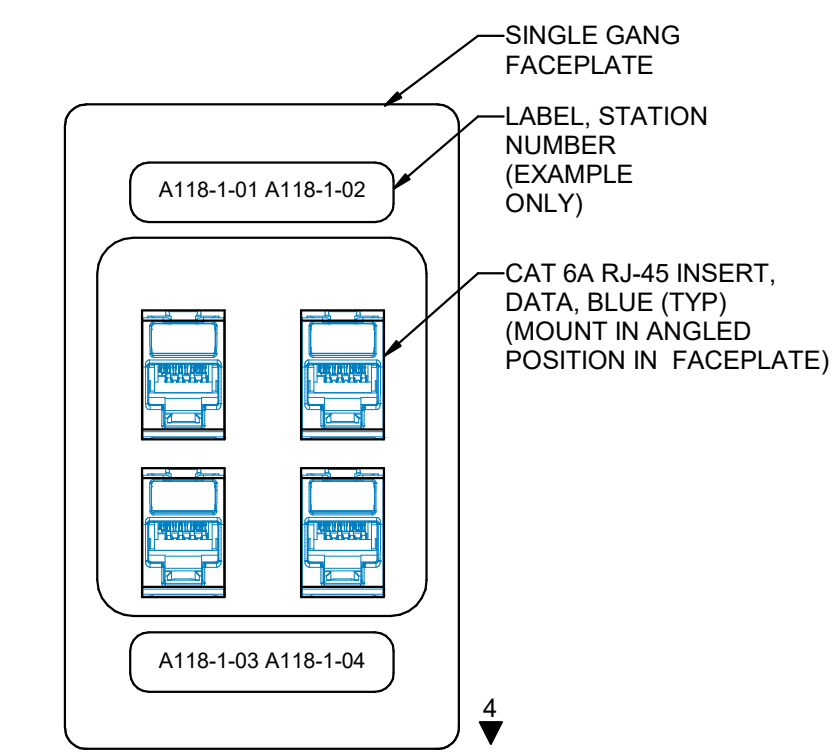
**8** TYPICAL CABLE IDENTIFICATION DETAIL (EXAMPLE)  
SCALE: NTS



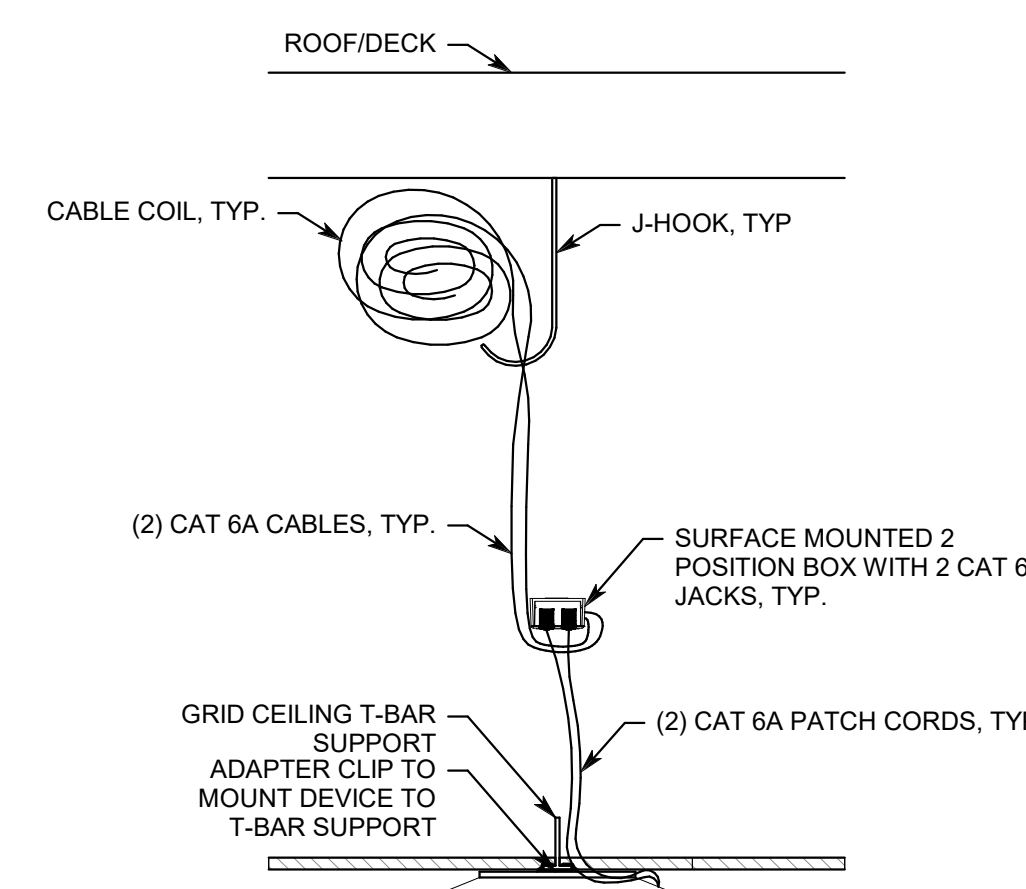
**15** STATION PATCH PANEL DETAIL (SPP1)  
SCALE: NTS



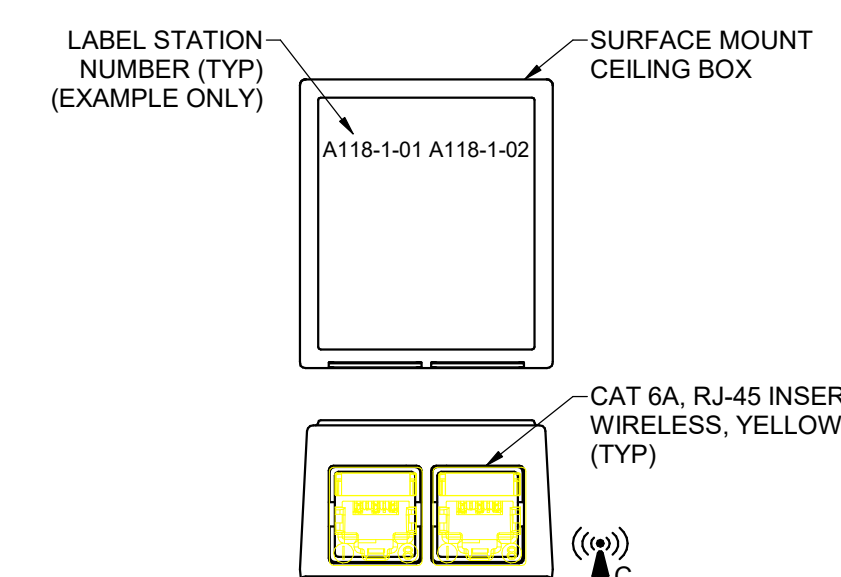
**7** TYPICAL 2-DROP CEILING DATA DETAIL  
SCALE: NTS



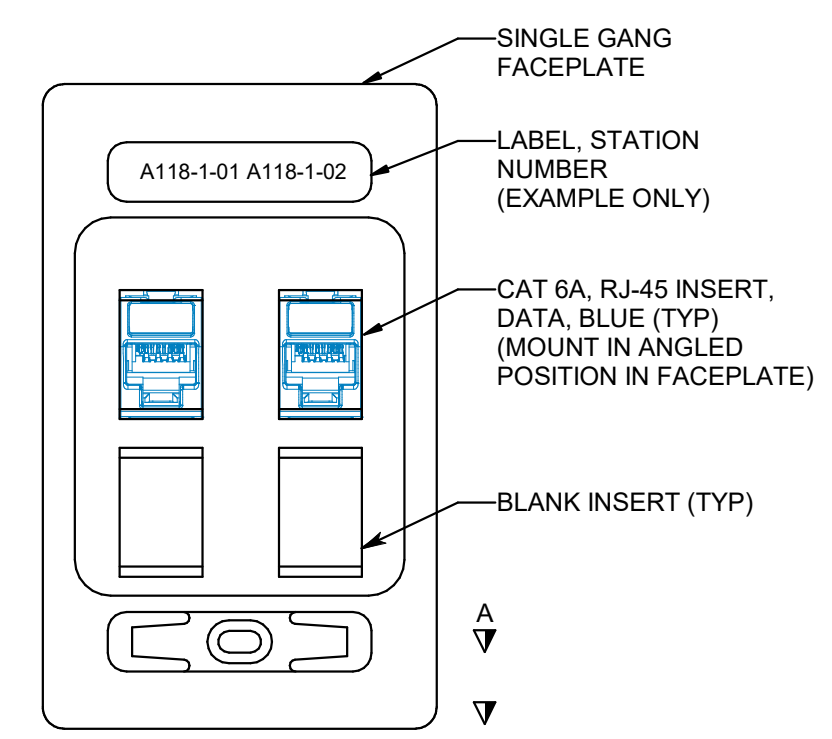
**4** TYPICAL 4-PORT WALL DATA OUTLET  
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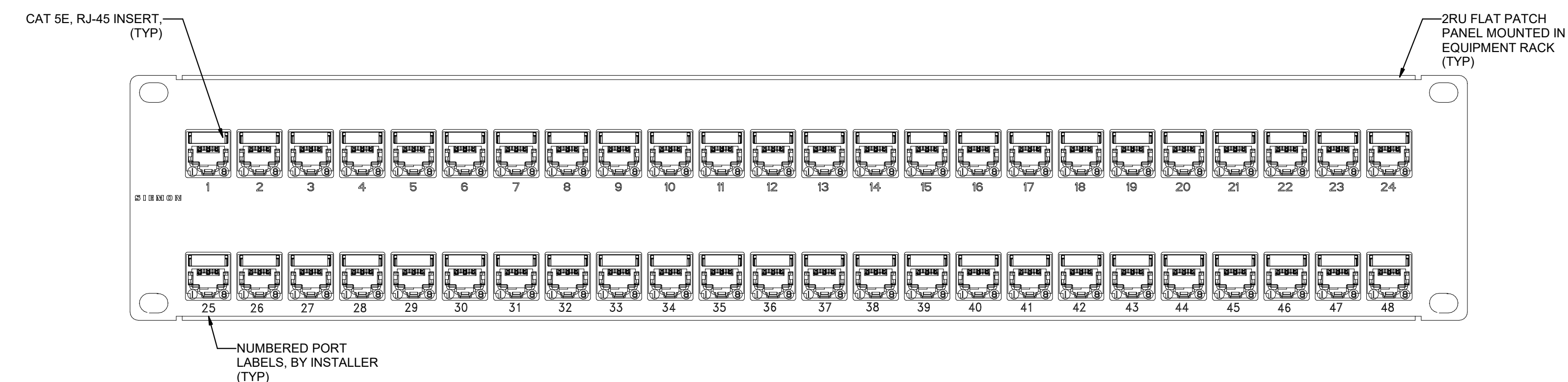
**12** T-BAR MOUNT WIRELESS ACCESS POINT MOUNTING DETAIL (T-BAR)  
SCALE: 1/8" = 1'-0"



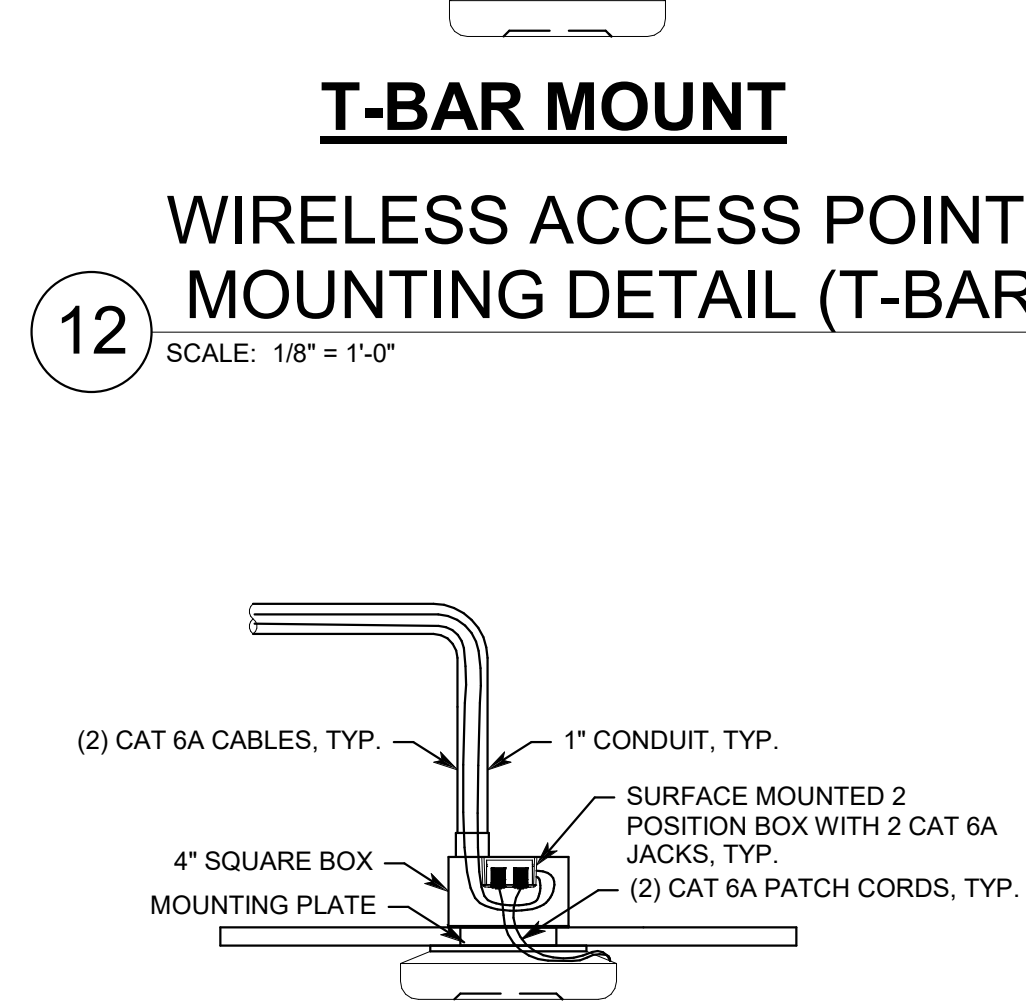
**6** TYPICAL 2-DROP WIRELESS ACCESS POINT DETAIL  
SCALE: NTS



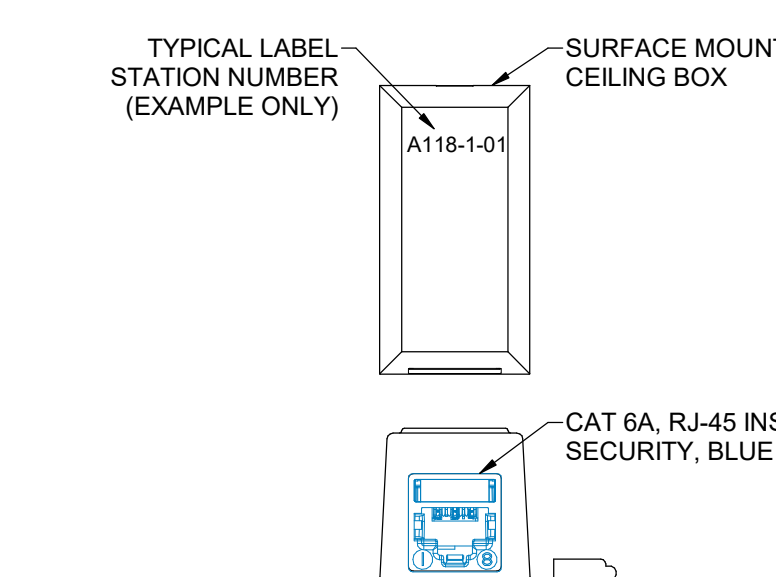
**3** TYPICAL 2-PORT WALL DATA OUTLET  
SCALE: NTS



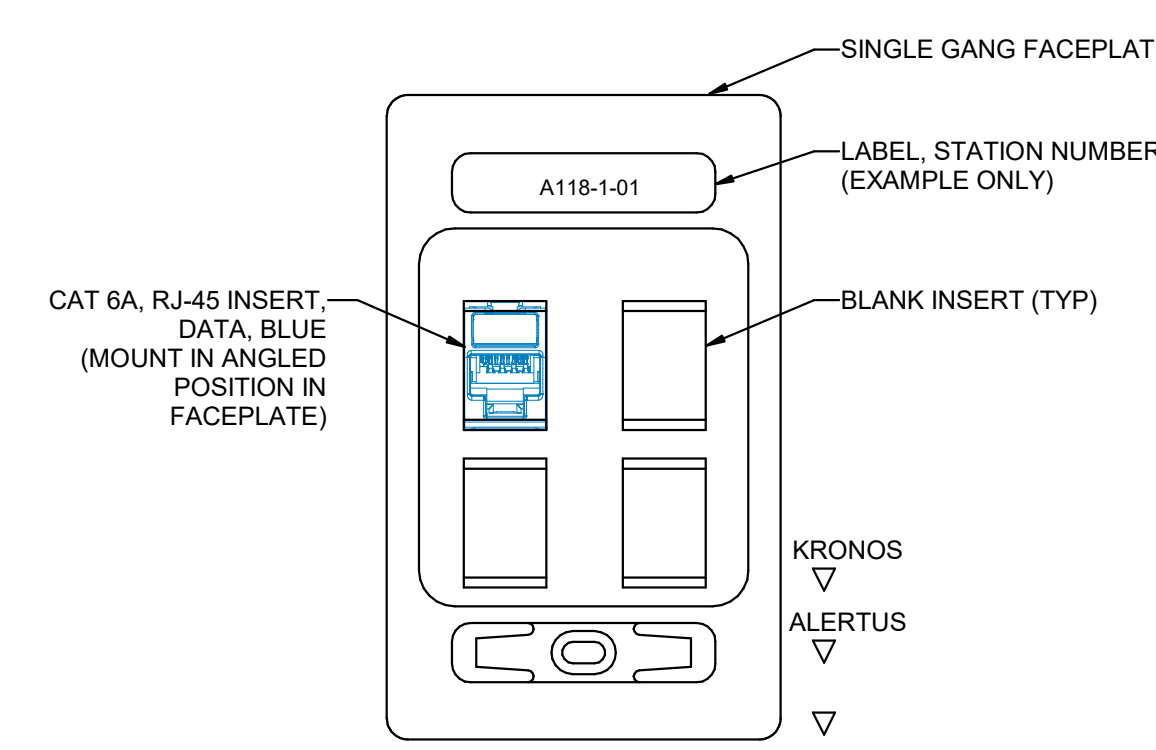
**14** RISER PATCH PANEL DETAIL (RPP2)  
SCALE: NTS



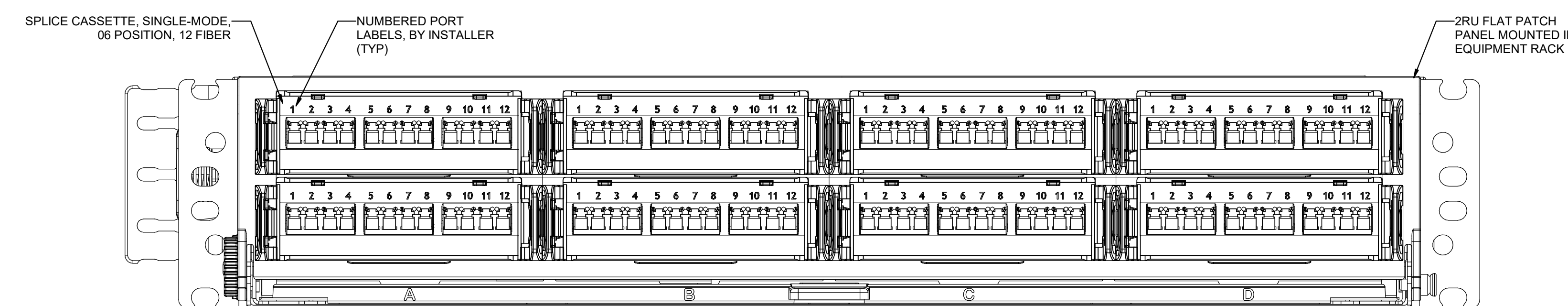
**11** HARD-LID CEILING MOUNT WIRELESS ACCESS POINT MOUNTING DETAIL (HARD-LID CEILING)  
SCALE: 1/8" = 1'-0"



**5** TYPICAL 1-DROP CAMERA DETAIL  
SCALE: NTS



**2** TYPICAL 1-PORT WALL DATA OUTLET  
SCALE: NTS



**13** FIBER PATCH PANEL DETAIL (FPP2)  
SCALE: NTS

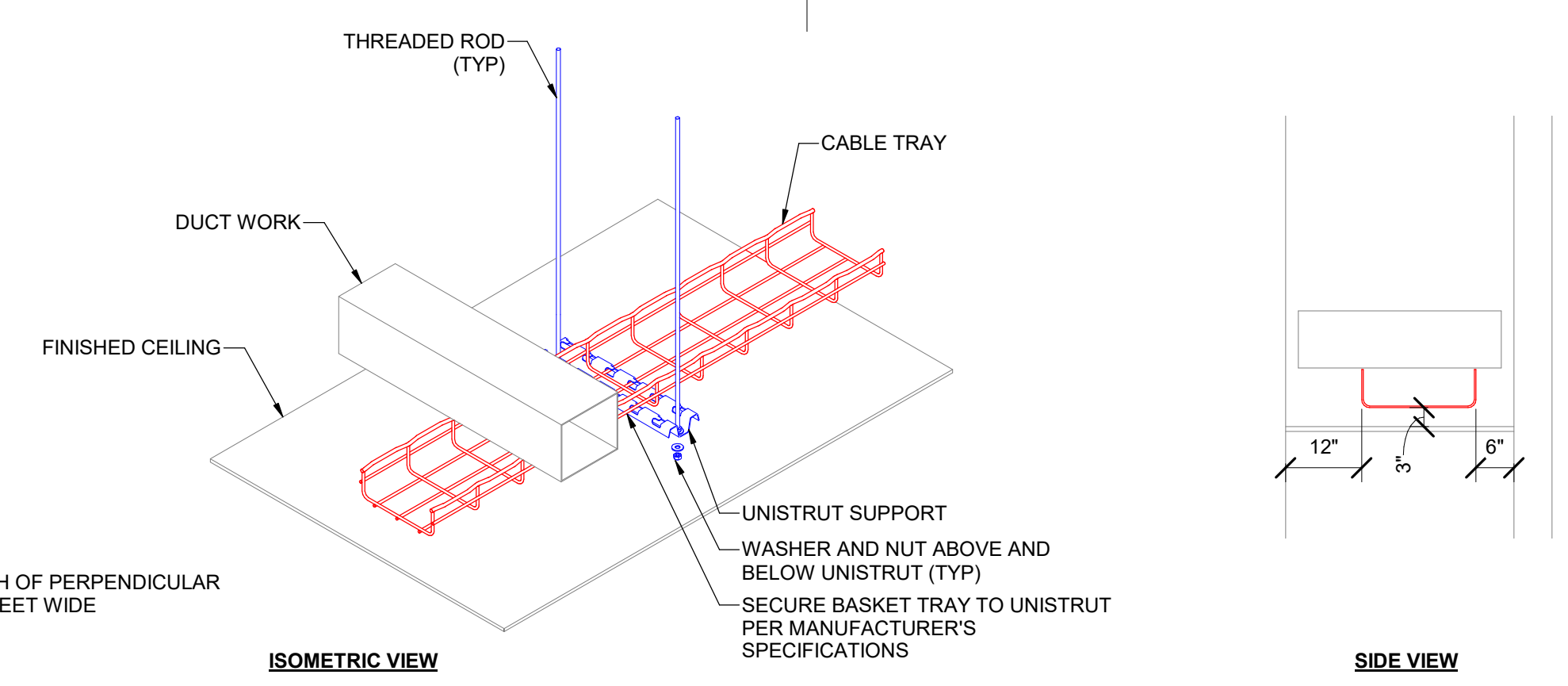
Intermountain Health  
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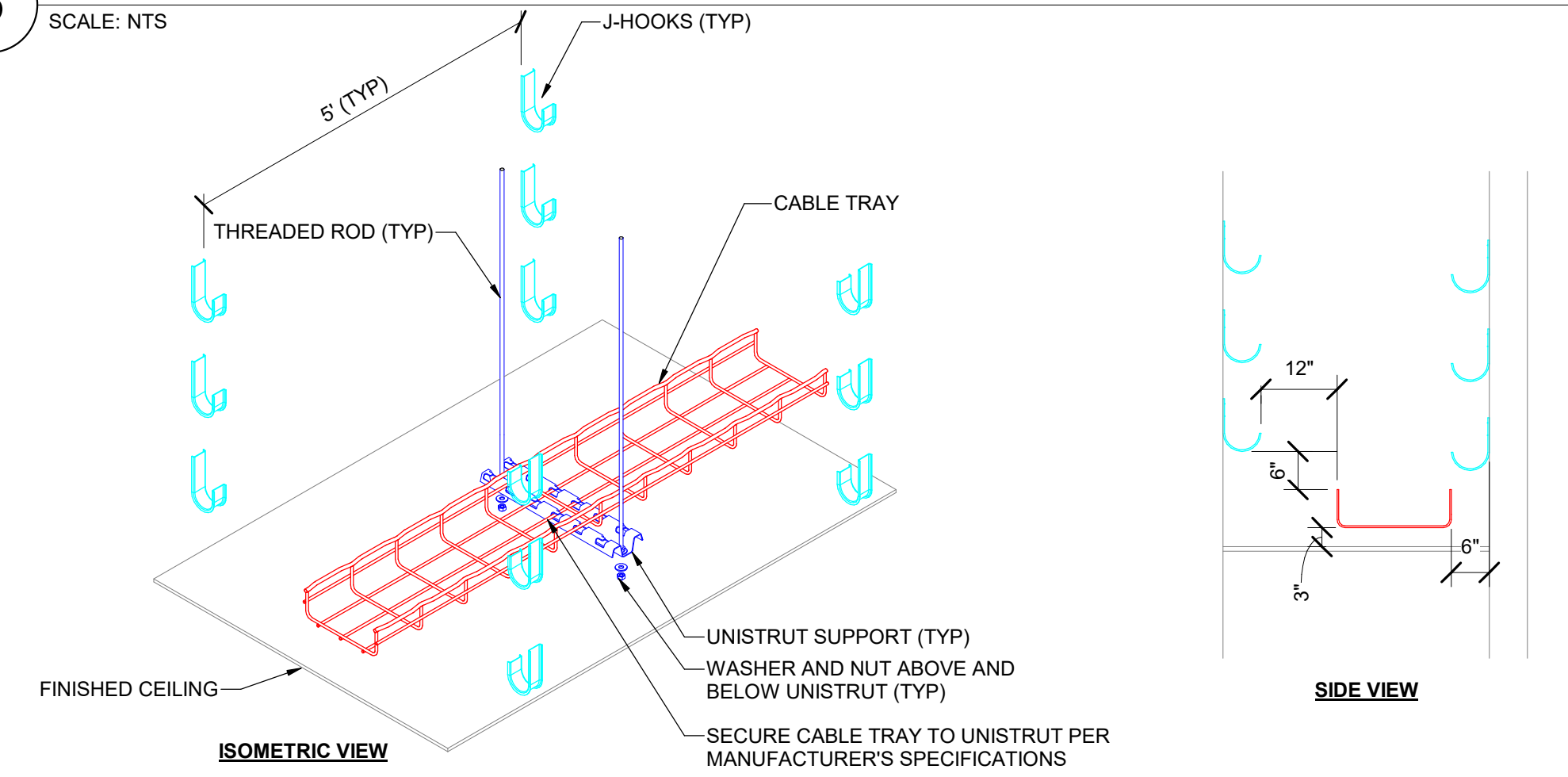
NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

TELECOM  
DETAILS

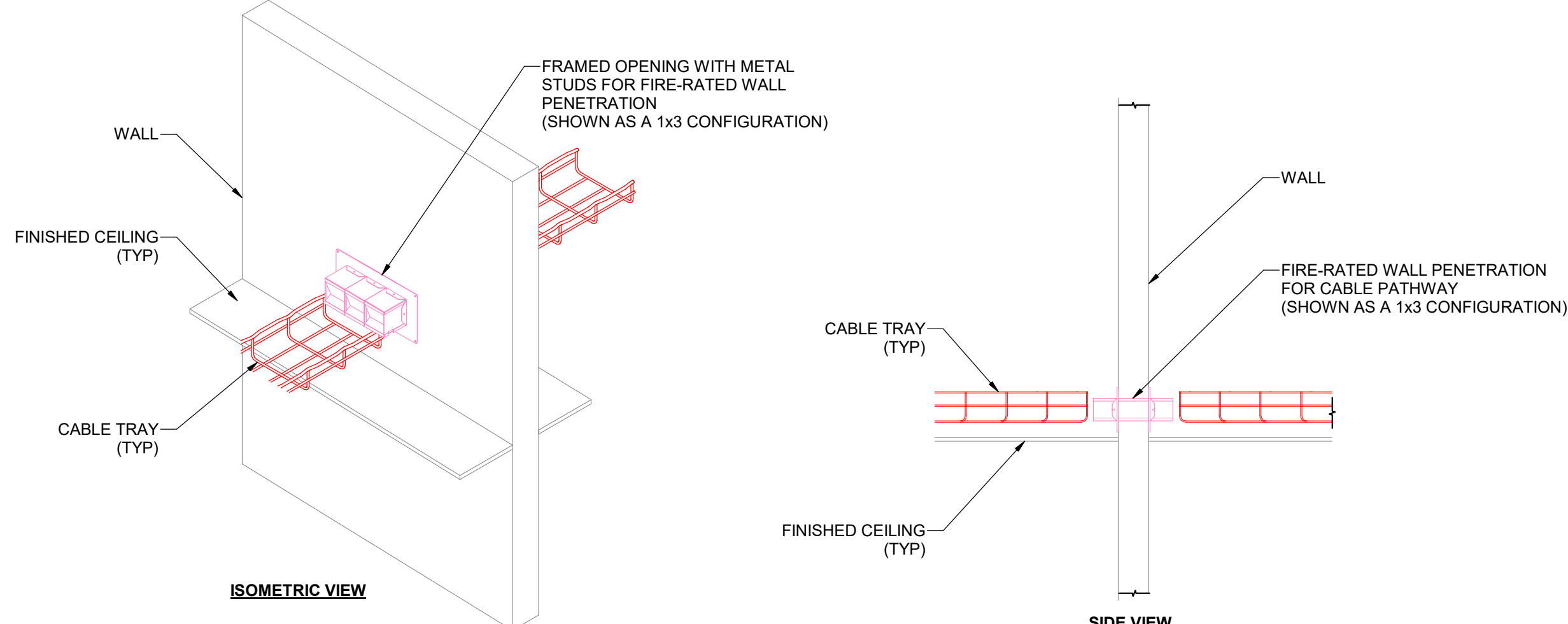
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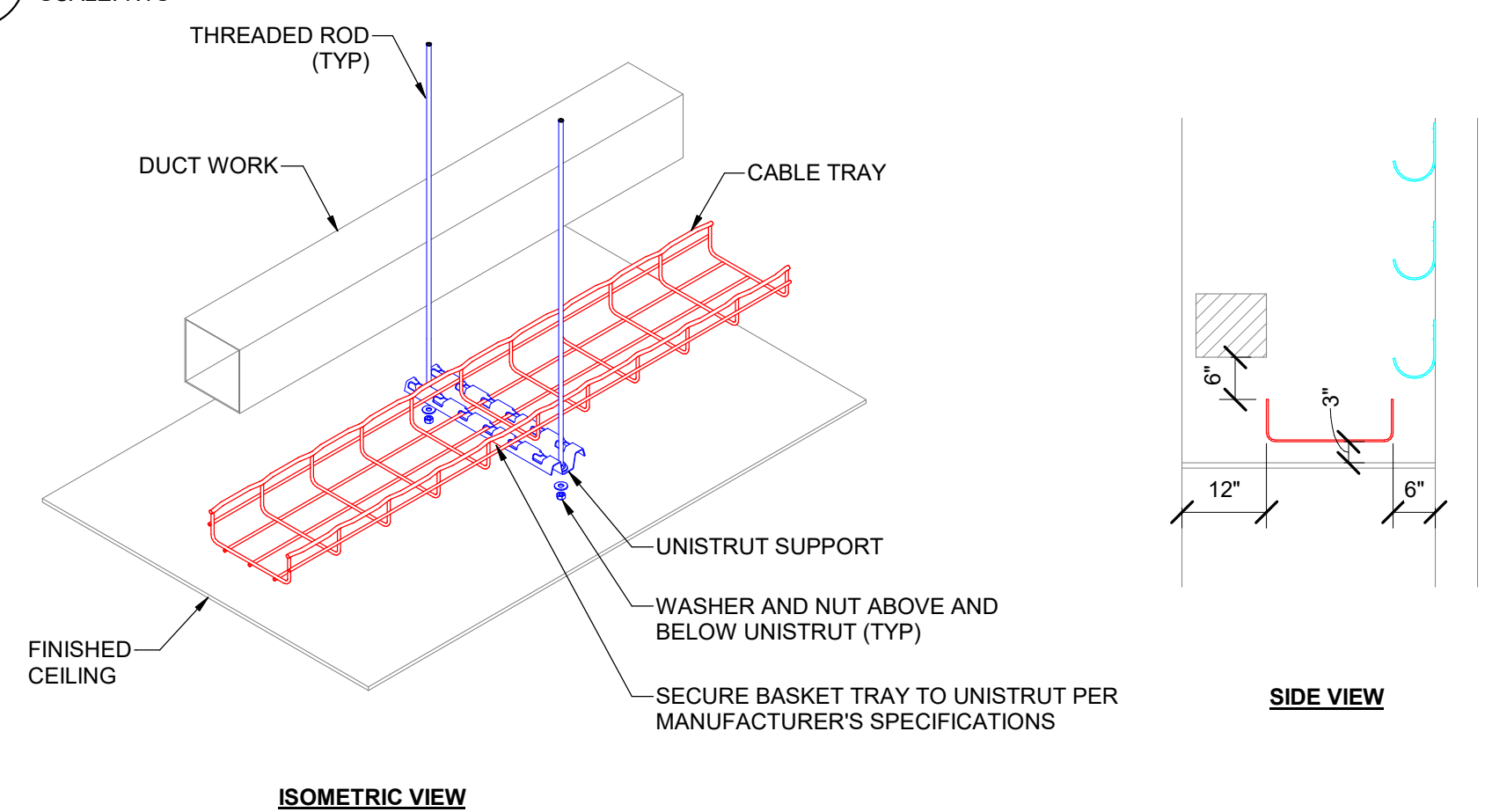
**5** TYPICAL CABLE TRAY W/ PERPENDICULAR CROSSING DETAIL  
SCALE: NTS



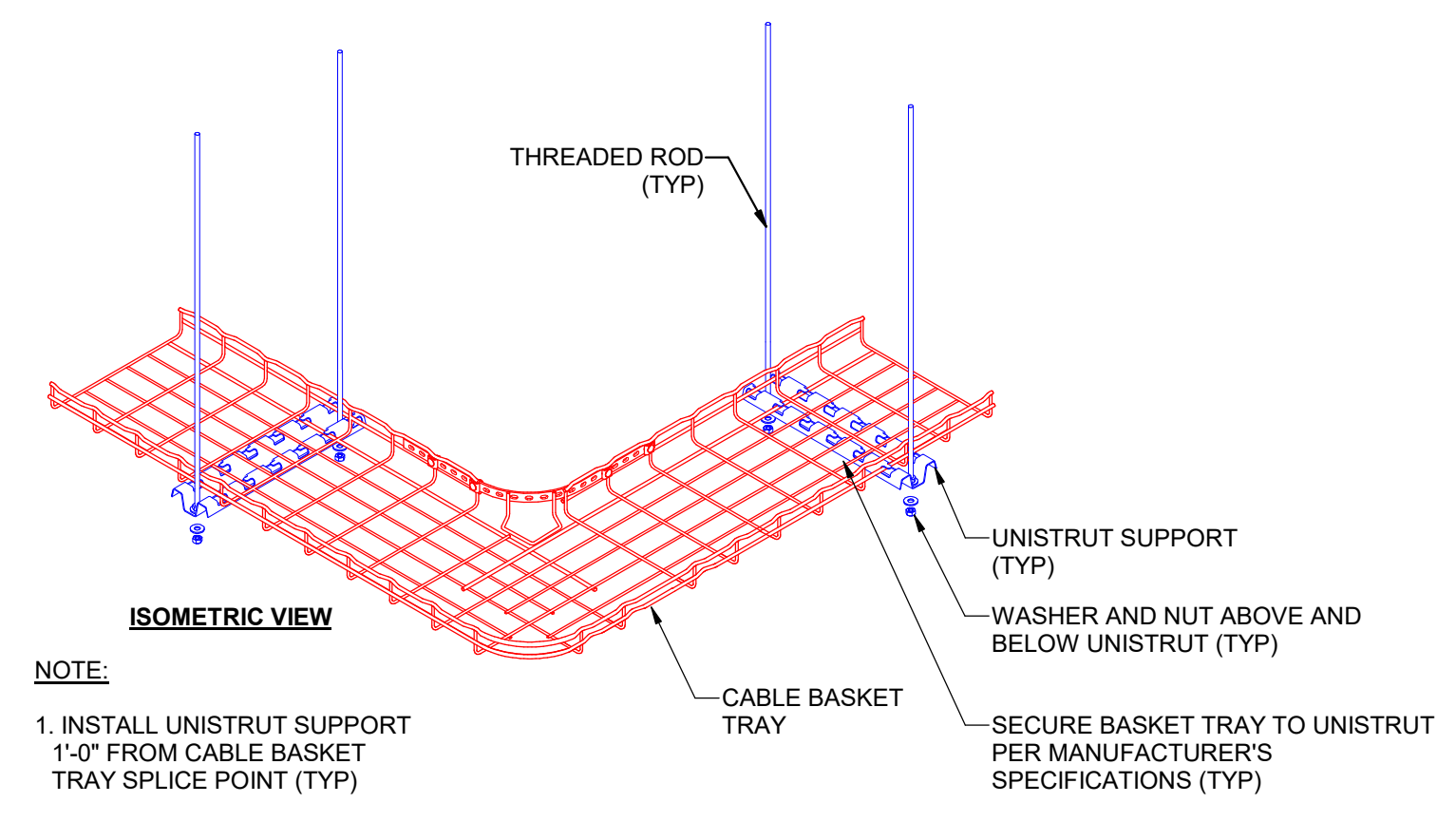
**4** TYPICAL CABLE TRAY W/ J-HOOK ABOVE DETAIL  
SCALE: NTS



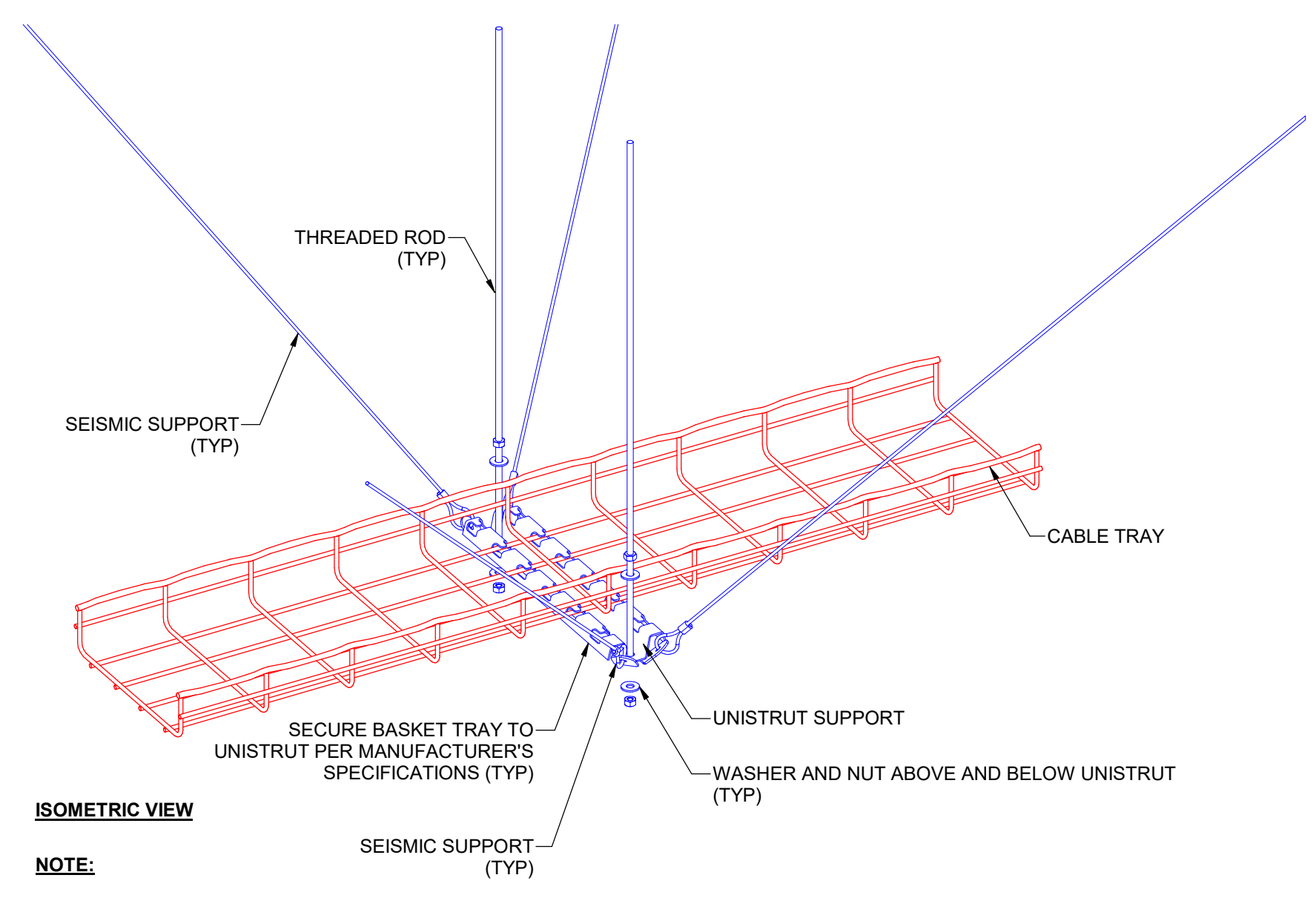
**8** TYPICAL CABLE TRAY FIRE-RATE WALL PENETRATION DETAIL  
SCALE: NTS



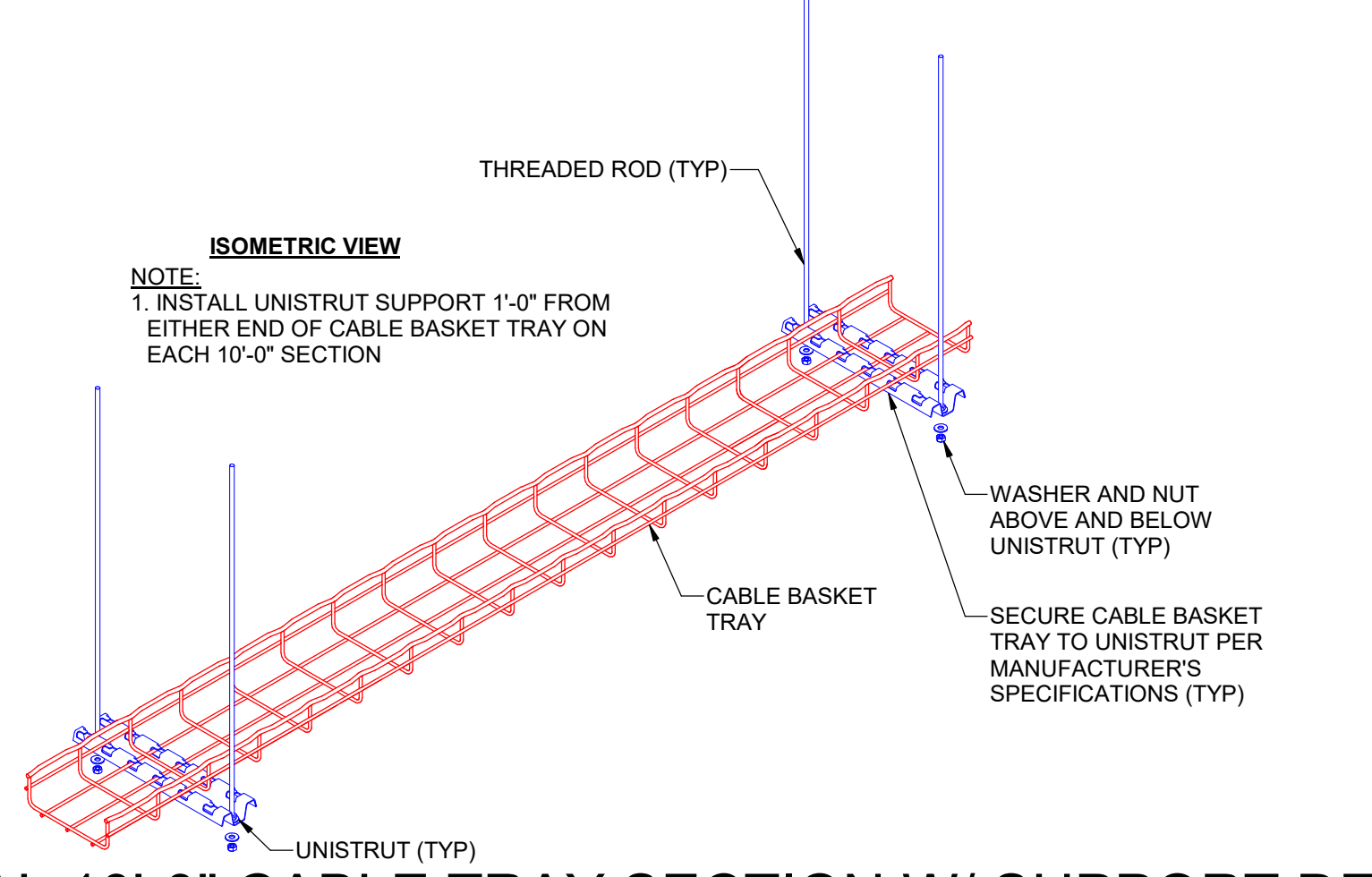
**7** TYPICAL CABLE TRAY W/ PARALLEL OBSTRUCTION DETAIL  
SCALE: NTS



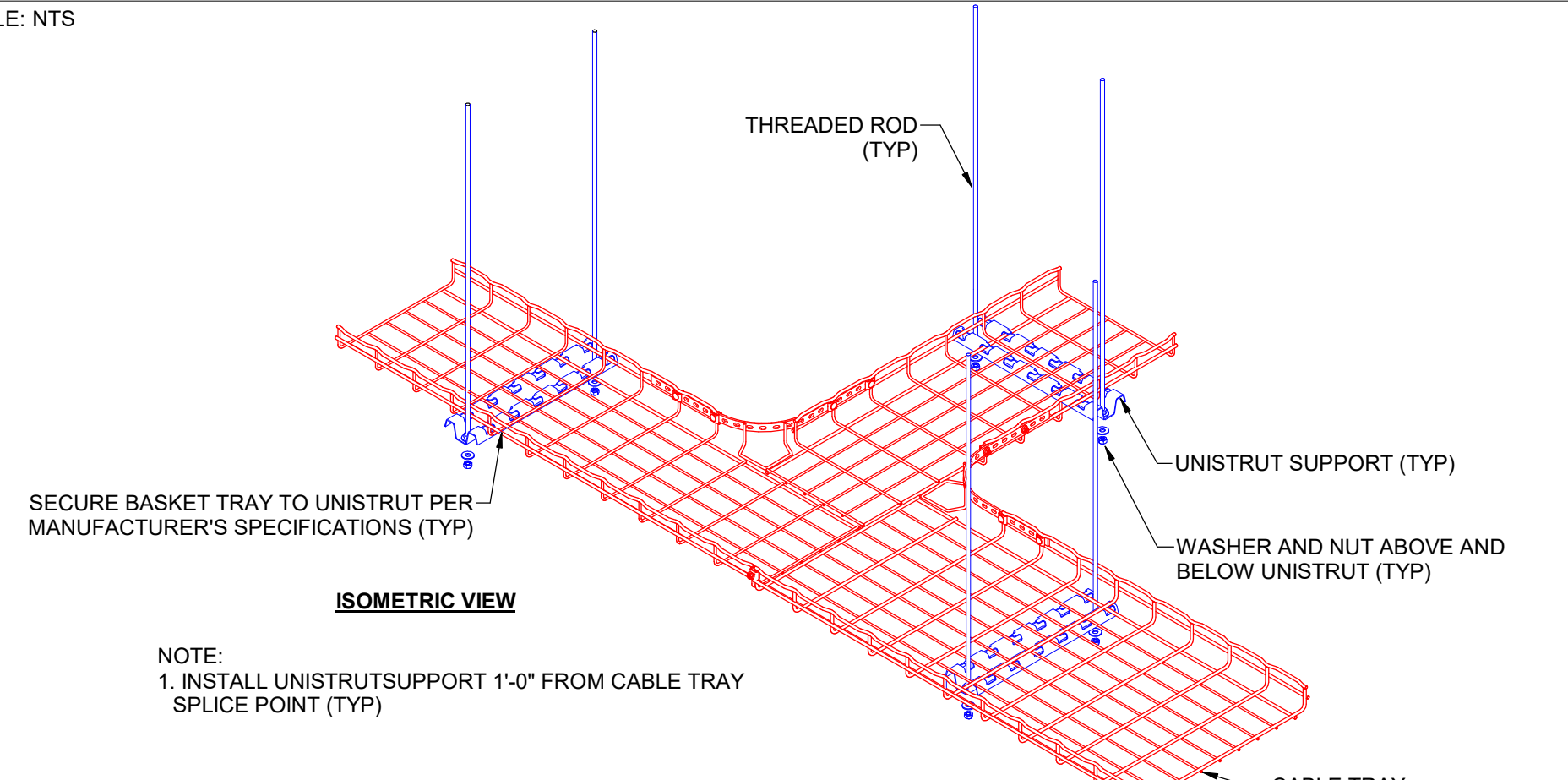
**3** TYPICAL CABLE TRAY 90 DEGREE BEND W/ SUPPORTS DETAIL  
SCALE: NTS



**6** TYPICAL CABLE TRAY W/ SEISMIC SUPPORTS DETAIL  
SCALE: NTS



**2** TYPICAL 10'-0" CABLE TRAY SECTION W/ SUPPORT DETAIL  
SCALE: NTS



**1** TYPICAL CABLE TRAY INTERSECTION W/ SUPPORTS DETAIL  
SCALE: NTS

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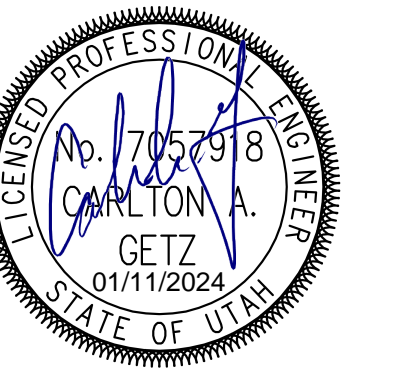
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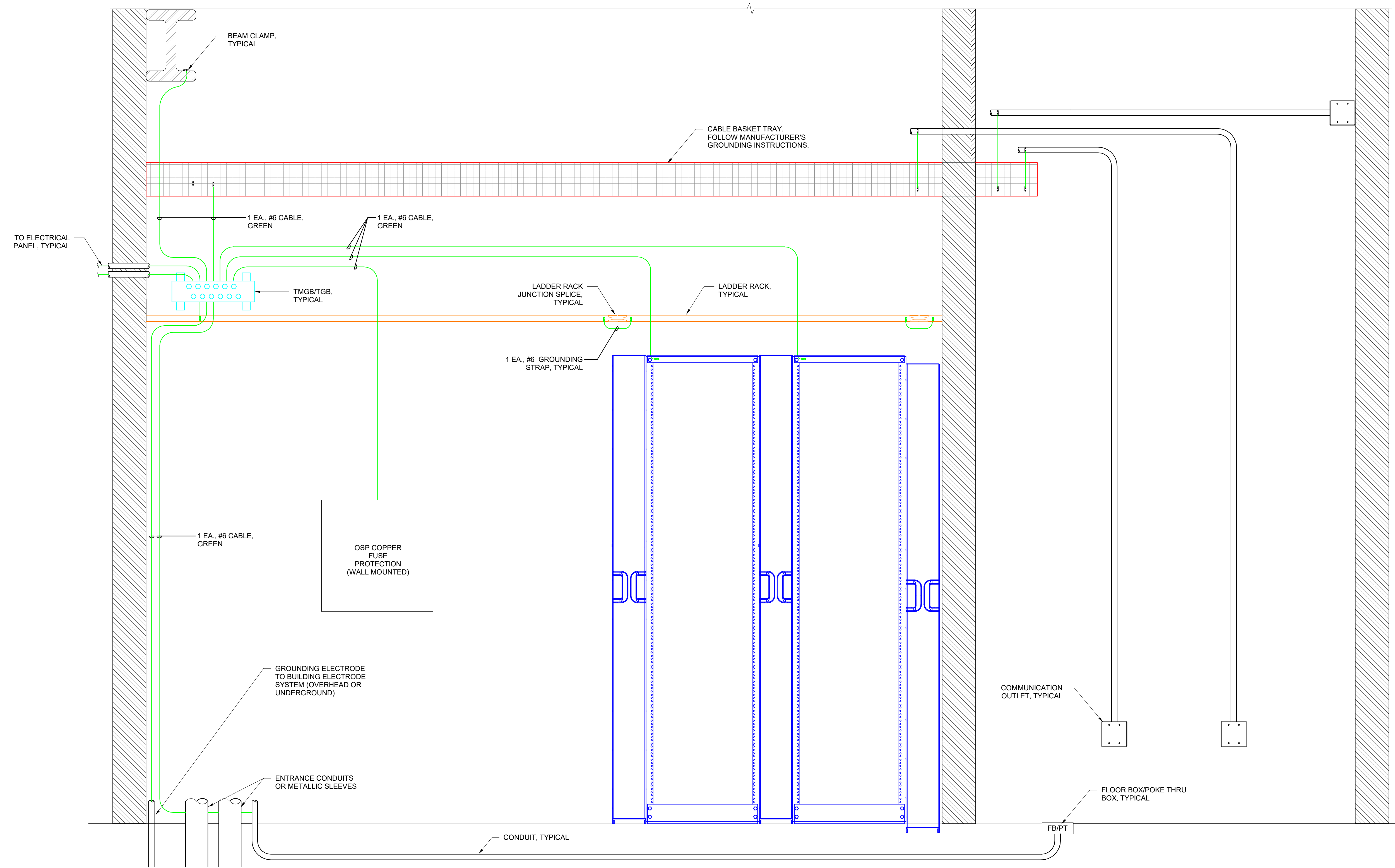
TELECOM  
DETAILS

ET503

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- GENERAL NOTES:**
1. ALL LOW VOLTAGE COMMUNICATIONS CONDUIT SHALL BE GROUNDED TO BASKET TRAY OR TELECOMMUNICATIONS GROUNDING BUS BAR.
  2. "TMGB" SHOULD BE 1/4"x4"x24".
  3. "TGB" SHOULD BE 1/4"x2"x24".
  4. EMT CONDUIT GROUNDING CLAMP SHOULD BE ELECTROLYTIC CAST BRONZE (PANDUIT PART NUMBER GPL-"X"-X", OR EQUAL).
  5. RIGID CONDUIT GROUND CLAMP SHOULD BE PART NUMBER O-ZIGEDNEY BLG-XXXX, OR HBLG-XXXX, OR EQUAL.
  6. GROUNDING LUGS SHOULD BE TWO-HOLE LONG BARREL LUGS (PANDUIT PART NUMBER LCC6, OR EQUAL).



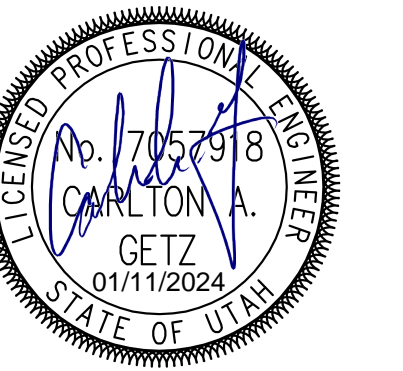
**1** TYPICAL TELECOM EQUIPMENT RACK GROUNDING DETAIL  
SCALE: NTS

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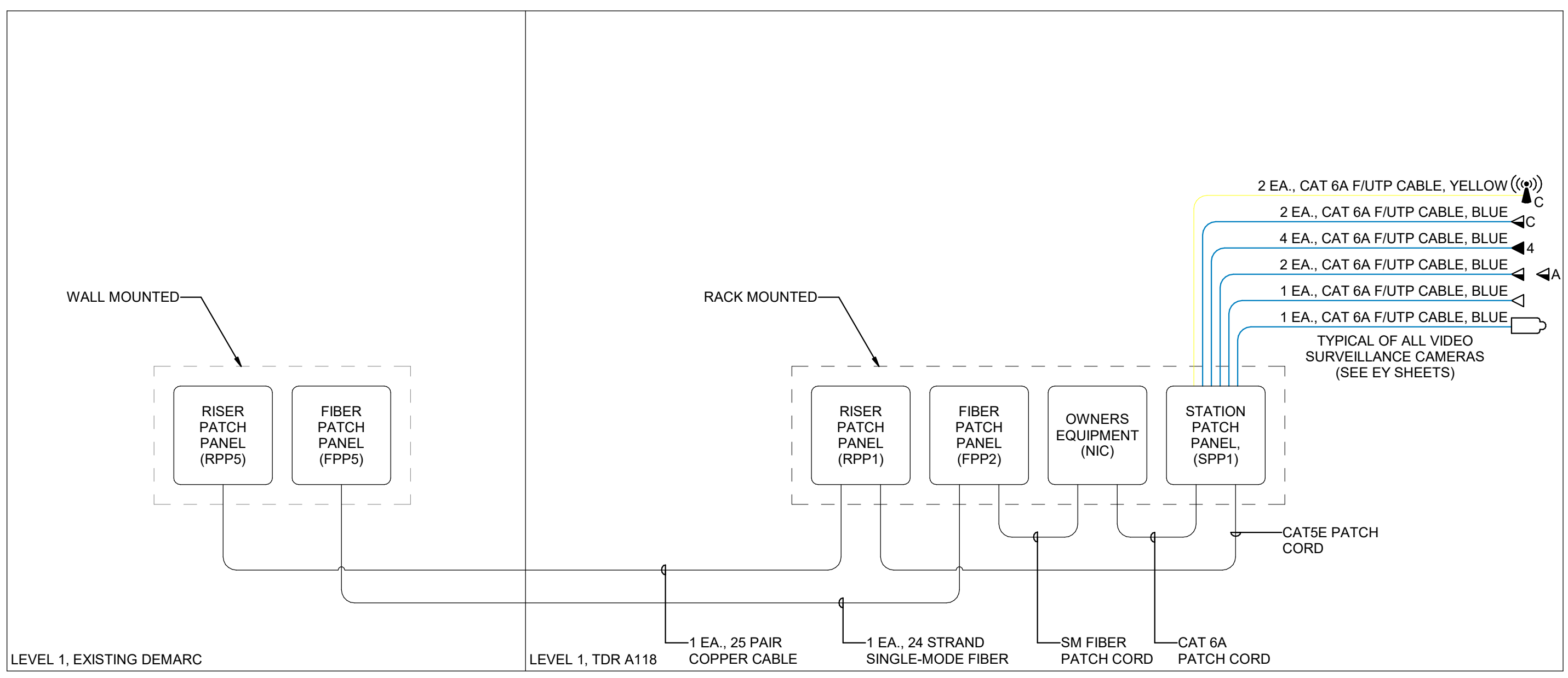
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TELECOM  
EQUIPMENT  
RACK  
GROUNDING  
DETAIL  
**ET504**

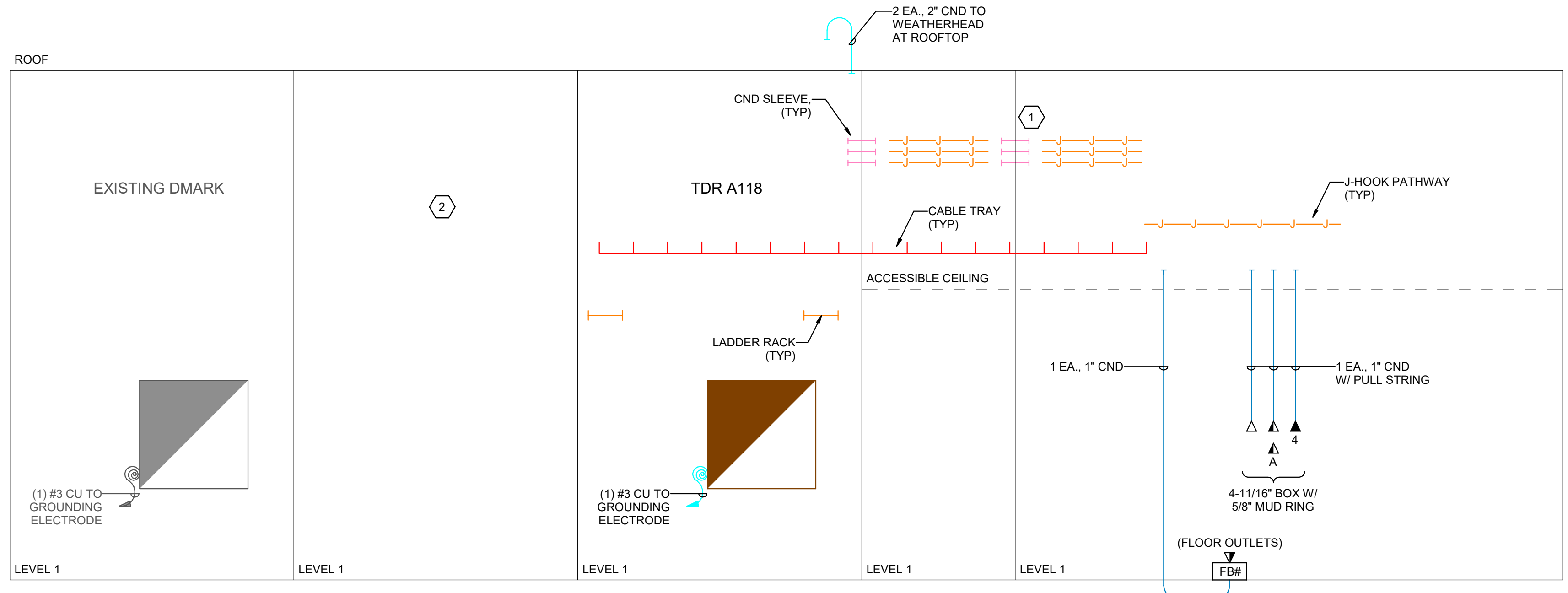


**SHEET KEYNOTES**

- CONTRACTOR TO PROVIDE SLEEVES THROUGH ALL WALLS FOR CABLE PATHWAYS. ALL FIRE-RATED WALLS REQUIRE A FIRE-RATED SLEEVE. SEE SPECS FOR MORE INFORMATION. ALL SMOKE/ NON-RATED WALLS REQUIRE A CONDUIT SLEEVE WITH BUSHINGS AND ARE REQUIRED TO BE SEALED WITH FIRE-RATED GULK AND PUTTY. CONTRACTOR TO DETERMINE FINAL NUMBER OF SLEEVES FOR PENETRATIONS THROUGH WALLS.
- CONTRACTOR TO COORDINATE PATHWAY TO EXISTING DEMARC PRIOR TO BID.



**2 TELECOM CABLE RISER DIAGRAM**  
SCALE: NTS



**1 TELECOM CONDUIT RISER DIAGRAM**  
SCALE: NTS

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

TELECOM  
RISER  
DIAGRAMS

ET601

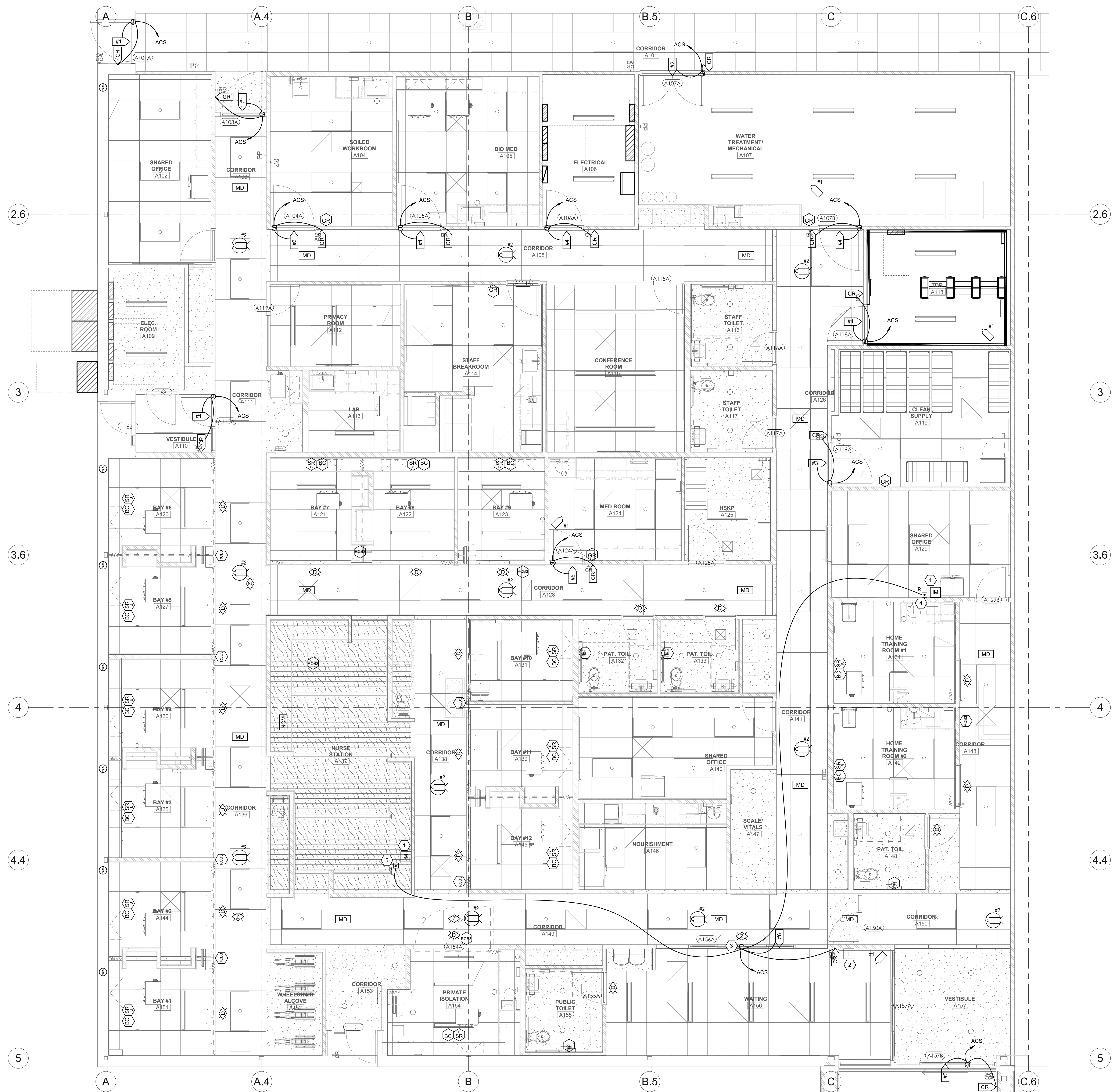


**GENERAL SHEET NOTES**

- 1 PROVIDE LABELS ON ALL NEW DEVICES PER PROJECT SPECIFICATIONS CONFORMING WITH DIVISION 26 SPECIFICATIONS FOR IDENTIFICATION OF ELECTRICAL EQUIPMENT AND INTERMOUNTAIN'S DIVISION 27 SPECIFICATIONS PRIOR TO SUBSTANTIAL COMPLETION.
- 2 EXISTING CABLING, CONDUIT, ETC., SERVING SPACES NOT DIRECTLY IMPACTED BY THE SCOPE OF WORK MAY BE IMPROPERLY SUPPORTED OR UNSUPPORTED. PROVIDE AN HOURLY TIME AND MATERIALS RATE FOR PROPERLY SUPPORTING ANY EXISTING TO REMAIN CABLING, CONDUIT, ETC., FOUND TO BE IMPROPERLY SUPPORTED OR UNSUPPORTED TO CONFORM WITH THE SUPPORT REQUIREMENTS IN THE PROJECT SPECIFICATIONS. CONTRACTOR SHALL DOCUMENT AND REPORT ALL INSTANCES OF IMPROPERLY SUPPORTED OR UNSUPPORTED CABLING, CONDUIT, ETC., TO OWNER AND ARCHITECT. RESUPPORT ANY EXISTING CABLING AND/OR CONDUIT AS NECESSARY TO ELIMINATE CONTACT WITH EXISTING FIRE PROTECTION PIPING AND AVOID CONTACT WITH NEW FIRE PROTECTION LINES.

**SHEET KEYNOTES**

- 1 VIDEO INTERCOM SYSTEM NOTIFICATION LOCATION VIA NETWORK. COORDINATE INSTALLATION AND PROGRAMMING WITH OWNER.
- 2 VIDEO INTERCOM STATION (NETWORK CONNECTED) FOR UNIT ACCESS (AXIS 1807-LVE OR EQUIVALENT WITH PRIOR APPROVAL). COORDINATE EXACT LOCATION WITH ARCHITECTURAL PRIOR TO INSTALLATION.
- 3 SLIDING DOOR TO BE CONTROLLED BY REMOTE RELEASE DEVICES. REFER TO POWER PLAN FOR CIRCUITING INFORMATION.
- 4 PROVIDE WALL MOUNTED REMOTE RELEASE DEVICE FOR SLIDING DOOR CONTROL.
- 5 PROVIDE UNDER DESK MOUNTED REMOTE RELEASE DEVICE DESK FOR SLIDING DOOR CONTROL.



**1 LEVEL 1 AUXILIARY PLAN**  
SCALE: 1/4" = 1'-0"

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

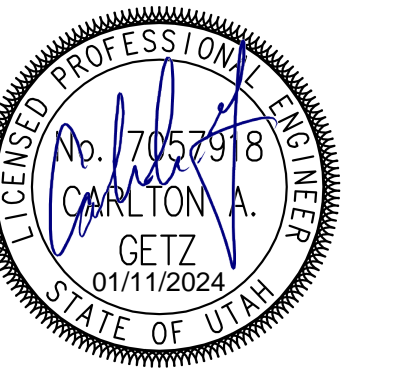
2750 South 5600 West  
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NJRA Project # 22211.05  
Construction Documents Jan. 15, 2024

LEVEL 1  
AUXILIARY  
PLAN

EY101

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**ABBREVIATIONS**

1G = 1-GANG OR SINGLE GANG  
4SQ = FOUR SQUARE JUNCTION BOX  
AO = AUTO OPENER  
AIR = AS REQUIRED  
ACC = ACCESSIBLE  
ACS = ACCESS CONTROL SYSTEM CONTROLLER  
ADA = ASSISTED DISABILITY OPENER  
AED = ELECTRIC EXIT DEVICE/CR COMBO ON DOOR  
AEL = ELECTRIC LOCK/CR COMBO ON DOOR  
C = CONDUIT  
CI = DOOR CONTACT INDICATOR SWITCH  
CR = CARD READER  
DH = DOOR HARNESS  
DBL = DOUBLE  
DED = DELAYED EXIT DEVICE  
DIR = DIRECTION  
ED = EXIT DEVICE  
EH = ELECTRIC HINGE  
EL = ELECTRIC LOCKSET  
ES = ELECTRIC STRIKE  
EDL = ELECTRIC DEADLATCH  
EED = ELECTRIFIED EXIT DEVICE  
ELC = EMERGENCY LOCK CONTROL  
EPT = ELECTRIC POWER TRANSFER  
FA = FIRE ALARM SYSTEM  
FH = FRAME HARNESS

**ABBREVIATIONS**

HDWR = HARDWARE  
IDS = INTRUSION DETECTION SYSTEM  
KS = KEY SWITCH  
LS = LOCK INDICATOR SWITCH IN HARDWARE  
LX = PANIC HARDWARE LATCH POSITION SWITCH  
LPS = LOCK POWER SUPPLY  
MD = MOTION DETECTOR  
ML = ELECTROMAGNETIC LOCK  
OCC = OCCUPANCY  
ORP = OBTAIN FROM PLANS  
PB = PUSH BUTTON RELEASE  
PH = PANIC HARDWARE  
PP = PUSH PAD ACTUATOR  
PS = POWER SUPPLY  
PED = POE EXIT DEVICE  
PEL = POE ELECTRIC LOCKSET  
PIB = INTERFACE BOARD FOR COMBO LOCKING HARDWARE  
PWR = POWER  
QTY = QUANTITY  
RS = REMOTE OPEN SWITCH  
REX = REQUEST TO EXIT SWITCH/FUNCTION  
TLC = TIME/SYSTEM LOCK CONTROL  
TYP = TYPICAL  
W/ = WITH

**NOTES**

1. PROVIDE RACEWAY AND EQUIPMENT AS INDICATED FOR CARD ACCESS DOOR TYPE INDICATED. REFER TO SECTION 281300 AND CARD ACCESS LOCK CONTROL DETAILS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE CONCEALED .75" C TYPICAL FOR LINES SHOWN TO DEVICE BOXES ON PROTECTED SIDE AND UNPROTECTED SIDE ELEVATIONS.
3. CONFIRM CORRECT CARD ACCESS DOOR RACEWAY, LOCK VOLTAGE, AND EXIT SWITCH CURRENT RATING (2 AMPS MIN.) WITH DIV. 8 FURNISHED CARD ACCESS DOOR HARDWARE PER DIV. 8 DOOR HARDWARE SPECIFICATIONS.
4. LOCATE CARD READER BOX AS INDICATED ON FLOOR PLANS. RACEWAY AND BOXES BY DIV. 26. REFER TO 281300 FOR CARD ACCESS SYSTEM REQUIREMENTS.
5. DOUBLE 4SQ J-BOX ON PROTECTED SIDE OF DOORWAY (SIDE OPPOSITE OF CARD READER) ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATION. PROVIDE COVER FOR J-BOX.
6. ELECTRIC LOCKING HARDWARE (MAG LOCKS, ELECTRIC STRIKES, POWER TRANSFER HINGES, ETC.) BY DIV 8. REVIEW DOOR HARDWARE FURNISHED AND VERIFY LOCK VOLTAGES AND OPERATIONAL FUNCTIONALITY OF LOCKS. CONTACT ENGINEER WITH QUESTIONS OR CONCERNS.

**CARD ACCESS DOOR TYPE SCHEDULE**

DOOR TYPE #	SYMBOL	DESCRIPTION	PROTECTED SIDE ELEVATION	UNPROTECTED SIDE ELEVATION	LOCK TYPE(S)	DIVISION OF WORK AND COMMENTS
TYPE 1		SINGLE DOOR, 1 CARD READER FREE EGRESS			ELECTRIC EXIT DEVICE	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • EH, FH, DH, EED, LPS LOCK CONTROLLED BY: • CR
TYPE 2		DOUBLE DOOR, 1 CARD READER FREE EGRESS			ELECTRIC STRIKE	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • ES, FH, LPS LOCK CONTROLLED BY: • CR
TYPE 3		SINGLE DOOR, 1 CARD READER FREE EGRESS			ELECTRIC STRIKE	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • ES, FH, LPS LOCK CONTROLLED BY: • CR
TYPE 4		SINGLE DOOR, 1 CARD READER FREE EGRESS			ELECTRIC LOCKSET	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • EL, EH, FH, DH, LPS LOCK CONTROLLED BY: • CR
TYPE 5		SINGLE DOOR, 1 CARD READER FREE EGRESS			ELECTRIC LOCKSET	SECURITY CONTRACTOR PROVIDES: • CR HARDWARE CONTRACTOR PROVIDES: • CI, EL, EH, FH, DH, LPS LOCK CONTROLLED BY: • CR
TYPE 6		DOUBLE SLIDING DOOR, 1 CARD READER			LOCKING HARDWARE PROVIDED WITH SLIDING DOOR  COORDINATE ROUGH-IN REQUIREMENTS WITH SLIDING DOOR PROVIDER	SECURITY CONTRACTOR PROVIDES: • CR, LPS HARDWARE CONTRACTOR PROVIDES: • NONE LOCK CONTROLLED BY: • CR

Intermountain Health  
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West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120





### SECURITY EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING *	ROUGH-IN	QTY	ACCEPTABLE TYPES
CR	CARD READER	40"	4SQ W/ 1G RING	OFF	SEE SECTION 281300
CRF	CARD READER FOR FRIDGE AND/OR FREEZER	40"	4SQ W/ 1G RING	OFF	PROVIDE HID READER WITH HES 660 SERIES LOCKSET
#1	CARD ACCESS DOOR TYPE, TYPICAL. REFER TO CARD ACCESS DOOR TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFF	REFER TO CARD ACCESS DOOR TYPE SCHEDULE & SECTION 281300
CI	DOOR MONITOR - CONTACT INDICATOR SWITCH	SEE SCHEDULE	SEE SCHEDULE	OFF	SEE SECTION 281300
AH	APERIO HUB (IP)	CEILING	1G BOX	OFF	PROVIDE APERIO HUB MODEL AH-40-IN2-NNNN
CR	WIRELESS READER AND LOCKSET FOR MED CABINET	ON CABINET	PER MANUF.	OFF	PROVIDE HES K100 WIRELESS READER/LOCKSET
I	IP INTERCOM WALL STATION	54"	3-GANG VERTICAL BOX	OFF	PROVIDE AXIS A8004-VE NETWORK VIDEO DOOR STATION
T	VSS CAMERA/ENCLOSURE TYPE, TYPICAL. REFER TO VSS CAMERA/ENCLOSURE TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFF	SEE VSS CAMERA/ENCLOSURE TYPE SCHEDULE
P	DURESS BUTTON	UNDER COUNTER J-BOX - 19"	4SQ W/ 1G RING	OFF	SEE SECTION 281600
ACS	CARD ACCESS CONTROLLERS & PWR SUPPLIES	72"	4"x4" GUTTER & STUBS A/R	A/R	SEE SECTION 281300
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER "TVSS"	AS NOTED	A/R	A/R	
VSS	VIDEO SURVEILLANCE SYSTEM	RACK MOUNTED			COORDINATE WITH OWNER

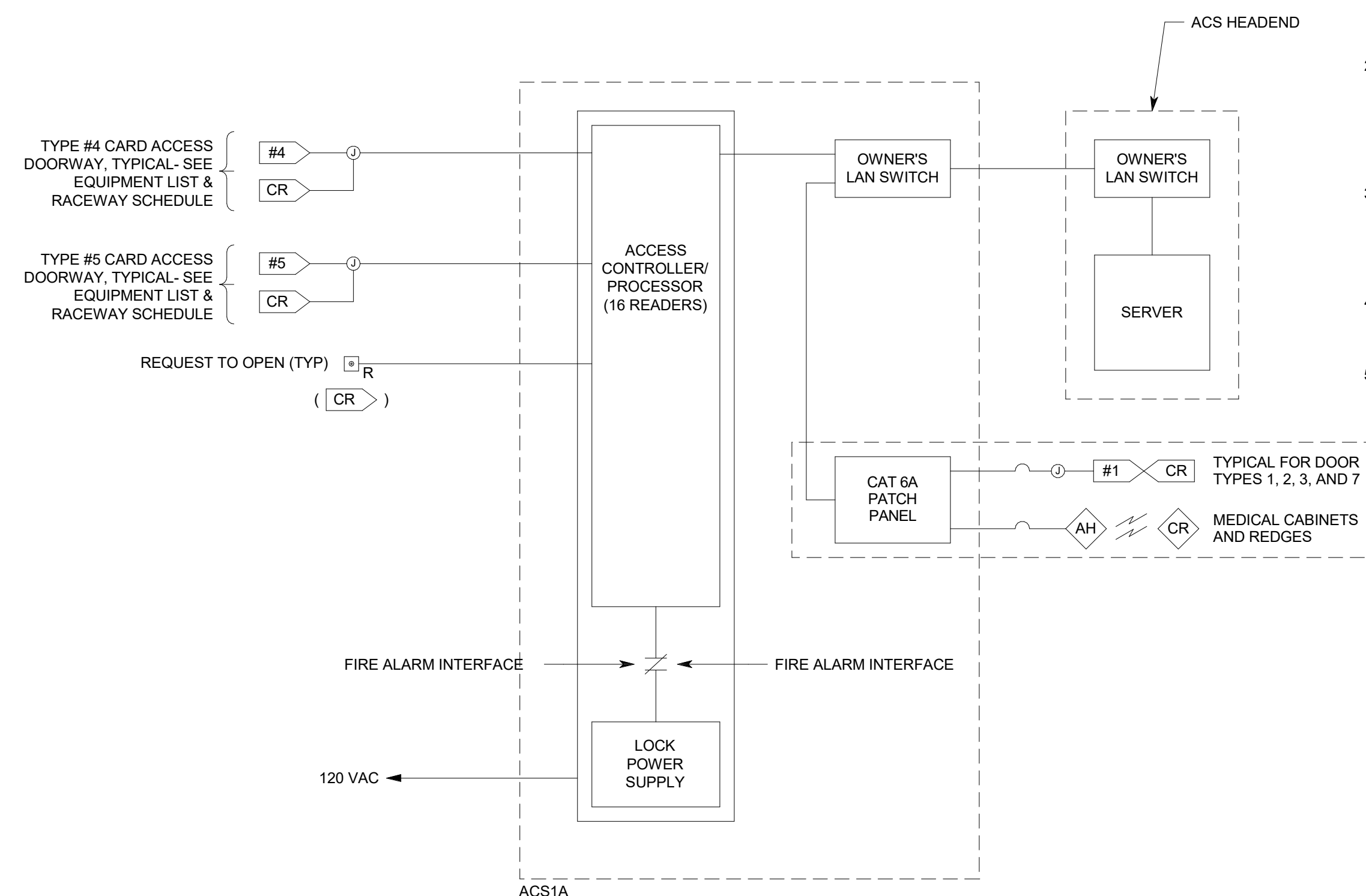
\* COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS BEFORE INSTALLATION.

### CAMERA/ENCLOSURE ROUGH-IN SCHEDULE

DESCRIPTION	INCLUDES
INTERIOR CAMERA - FIXED DOME (CEILING MOUNTED)	* JUNCTION BOX ABOVE ACCESSIBLE CEILING WITH 1" CONDUIT TO VSS
INTERIOR CAMERA - FIXED DOME (WALL MOUNTED)	* JUNCTION BOX AT +90" ABOVE FINISHED FLOOR, WITH 1" CONDUIT BACK TO VSS
EXTERIOR CAMERA - FIXED DOME (WALL MOUNTED)	* JUNCTION BOX AT +120" ABOVE FINISHED FLOOR, WITH 1" CONDUIT BACK TO VSS

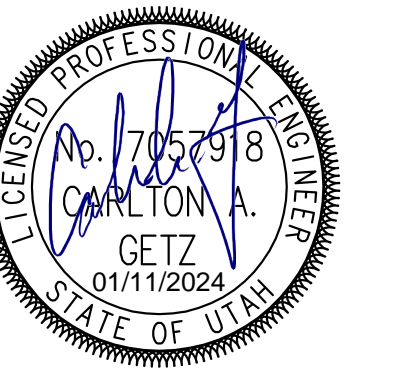
### CAMERA SCHEDULE

TYPE	INTERIOR (INT) EXTERIOR (EXT)	DESCRIPTION	AXIS MODEL #
1	INT	FIXED DOME, VARIFOCAI, CEILING MOUNT	P-3265-V
2	INT	FIXED DOME, VARIFOCAI, WALL MOUNT	P-3265-V
3	EXT	FIXED DOME, VARIFOCAI, WALL MOUNT	Q-3536-LVE
4	INT/EXT	FIXED DOME, MULTI-CAMERA, CEILING MOUNT (270/360°)	P-3727-PL
5	INT/EXT	FIXED DOME, DOUBLE-CAMERA, CEILING MOUNT (180°)	P-4705
6	INT	FIXED DOME, FISHEYE, CEILING MOUNT (360°)	M-3068-P
7	EXT	FIXED DOME, VARIFOCAI, CEILING MOUNT	P-3265-LVE
8	EXT	FIXED DOME, FISHEYE, CEILING MOUNT (360°)	P-3727-PL
9	EXT	FIXED DOME, VARIFOCAI, PARKING LOT POLE MOUNT	P-3727-PL



#### NOTES:

- ACCESS CONTROL SYSTEM BASED UPON MULTIPLE CARD READERS PER ACCESS CONTROLLER/PROCESSOR. PROVIDE QUANTITY OF ISTAR PRO AND ISTAR ULTRA CONTROLLER'S PER ACS BASED ON IDENTIFIED ACCESS READER LOCATIONS SHOWN IN THE EY SHEET SERIES, PLUS 20%.
- ACCESS CONTROLLER "ACS" INDICATED SHALL INCLUDE ANY ISOLATION MODULES, BUFFER MODULES, EXTERNAL POWER SUPPLIES, INPUT/OUTPUT MODULES, OR FORMAT CONVERTER MODULES (NOT SHOWN) REQUIRED TO SUPPORT CARD READER OR KEYPAD TYPES INDICATED, FOR COMPLETE AND FUNCTIONING CARD READER AND DOOR CONTROL.
- PROVIDE SEPARATE WIRE PAIRS FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, FROM ACCESS DOOR TO ACCESS CONTROLLER PANEL. SINGLE PAIR, FROM ACCESS DOOR TO CONTROLLER PANEL, FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, NOT ACCEPTABLE.
- REQUEST TO EXIT AND DOOR CONTACT INDICATOR CIRCUITS SHALL BE SUPERVISED FOR OPEN CIRCUIT OR SHORT CIRCUIT FAULTS BETWEEN THE DEVICE CONTACTS AND ACCESS CONTROLLER.
- LEVEL DOOR CONTROLLERS SHALL BE INSTALLED AT THE IDENTIFIED "ACS" LOCATIONS IN THE FOLLOWING TDR ROOMS.



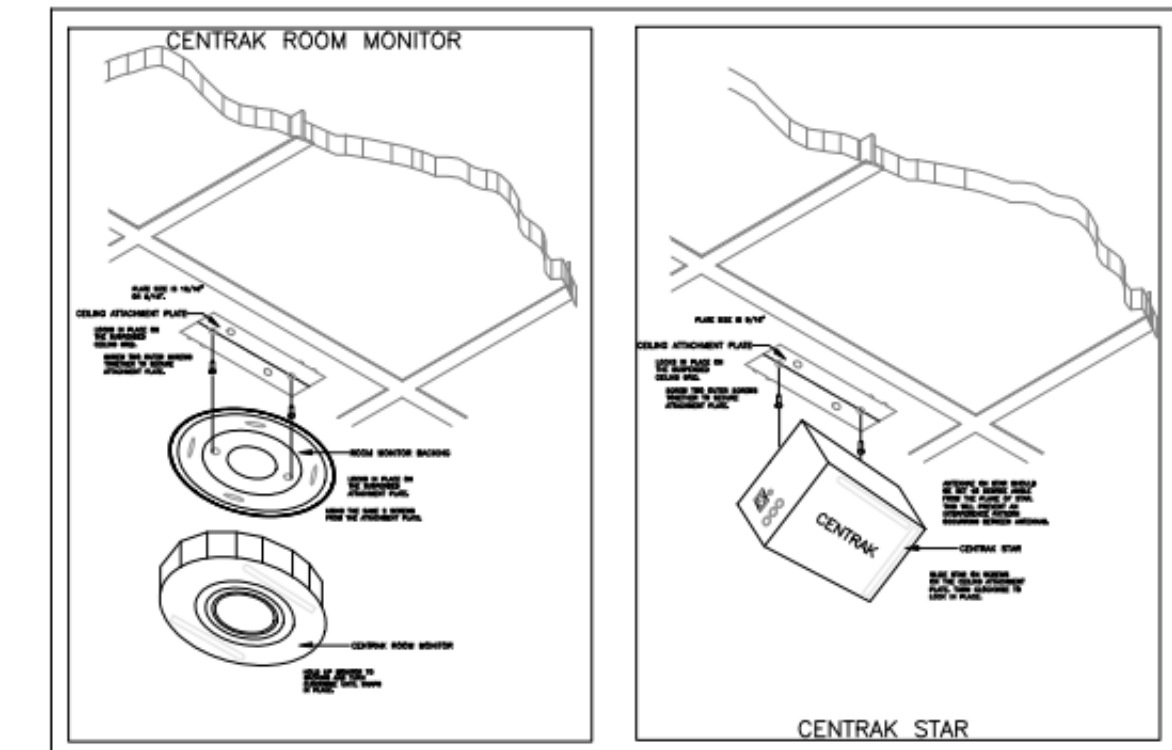
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NURSE CALL SYMBOL LIST

SYMBOL	MANUF.	PART #	DESCRIPTION	BACKBOX	BOX MOUNTING HEIGHT
NCM	HILL-ROM	P2500NC1B00	STAFF CONSOLE, DESK MOUNT	STEEL CITY 58371 3/4", RACO 561, OR ANY OTHER SINGLE GANG BACK BOX.	18" AFF (UNDER DESK)
NCM <sub>W</sub>	HILL-ROM	P2594NC3A00	STAFF CONSOLE, WALL MOUNT	STEEL CITY 58371 3/4", RACO 561, OR ANY OTHER SINGLE GANG BACK BOX.	54" AFF OR 48" TO COMPLY W/ OSHPD AND ADA
GA	HILL-ROM	P2594NC3B00	GRAPHICAL ANNUNCIATOR	STEEL CITY 58371 3/4", RACO 561, OR ANY OTHER SINGLE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
BC	HILL-ROM	P2505NC1B00	AUDIO STATION BED CONNECTOR (ASBC)	GARVIN 52183-3/4" WITH GARVIN 52013 RING, OR ANY OTHER 4" SQUARE 3.5" DEEP BACK BOX WITH SINGLE GANG MULD RING.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
EO	HILL-ROM	P2516A01	EQUIPMENT RECEPTACLE, WITH CALL CORD	STEEL CITY 58371 3/4", RACO 561, OR ANY OTHER SINGLE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
DL	HILL-ROM	P2506NC1B00	DOME LIGHT, SINGLE LED	RACO 231, WITH RACO 778 RING, OR ANY OTHER 4" SQUARE 2 1/8" DEEP BACK BOX.	CLG / WALL CENTER ABOVE PATIENT DOOR 90" AFF
DL <sub>Z</sub>	HILL-ROM	P2506NC8A00-D	ICON BASED-LIGHT LED ZONE LIGHT	STEEL CITY CYLE-3/4, RACO 591, OR ANY OTHER 3.5" DEEP SINGLE GANG BACK BOX.	CLG / WALL CENTER ABOVE PATIENT DOOR 90" AFF
DL <sub>Z</sub>	HILL-ROM	P2506NC8A00-7	ICON BASED-LIGHT LED ZONE LIGHT	STEEL CITY CYLE-3/4, RACO 591, OR ANY OTHER 3.5" DEEP SINGLE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
POE-24	HILL-ROM	P2519NC1A24	POE SWITCH	RACO 561 BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
PS	HILL-ROM	P2520A07	CODE BLUE PUSH BUTTON SWITCH	RACO 561 BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
PS	HILL-ROM	P2520A09	CODE PINK PUSH BUTTON SWITCH	RACO 561 BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
PS	HILL-ROM	P2520A12	PUSH FOR ASSISTANCE PUSH BUTTON SWITCH	RACO 561 BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
PS	HILL-ROM	P2520A08	STAFF EMERGENCY PUSH BUTTON SWITCH	RACO 561 BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
B	HILL-ROM	P2520B01	BATH SWITCH, W/CANCEL, SUPERVISED	RACO 561 BACK BOX.	42" AFF
B	HILL-ROM	P2520B02	BATH SWITCH, W/O CANCEL, SUPERVISED	RACO 561 BACK BOX.	78" AFF
UPS, APC Rackmount Non-Seismic	HILL-ROM	P2521B02	UPS, RACK MOUNTABLE, 2U - NON-SEISMIC		REFER TO ARCHITECTURAL ELEVATION DRAWINGS
SR	HILL-ROM	P2594NC1B11	STAFF STATION - STANDARD ROOM STATION W/ CODE	STEEL CITY GW-225G, RACO 691 OR ANY OTHER 2.5" DEEP, TWO OR THREE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
SR	HILL-ROM	P2594NC1B01	STAFF STATION - STANDARD ROOM STATION W/O CODE	STEEL CITY GW-225G, RACO 691 OR ANY OTHER 2.5" DEEP, TWO OR THREE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
GR	HILL-ROM	P2594NC2C00	GRAPHICAL ROOM STATION (GRS) - STAFF	STEEL CITY GW-225G, RACO 691 OR ANY OTHER 2.5" DEEP, TWO OR THREE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
GR	HILL-ROM	P2594NC2C11	GRAPHICAL ROOM STATION (GRS) - PATIENT	STEEL CITY GW-225G, RACO 691 OR ANY OTHER 2.5" DEEP, TWO OR THREE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
RA	HILL-ROM	P2594NC4A10	REMOTE AUDIO DEVICE	STEEL CITY GW-225G, RACO 691 OR ANY OTHER 2.5" DEEP, TWO OR THREE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
RCB	HILL-ROM	P2599NC3A00	RCB3 ROOM CONTROL BOARD	STEEL CITY GW-235G, RACO 696 OR ANY OTHER 3.5" DEEP, TWO OR THREE GANG BACK BOX.	SURFACE MOUNT ABOVE CEILING
RTLS-CLOSED	HILL-ROM	RTLS-CLOSED	RTLS - STAFF LOCATING LOCATION-CLOSED AREA	STEEL CITY GW-225G, RACO 691 OR ANY OTHER TWO GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
RTLS-OPEN	HILL-ROM	RTLS-OPEN	RTLS - STAFF LOCATING LOCATION-GLASS/OPEN AREA	STEEL CITY GW-225G, RACO 691 OR ANY OTHER TWO GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
RTLS-BAY	HILL-ROM	RTLS-BAY	RTLS - STAFF LOCATING LOCATION-BAY	STEEL CITY GW-225G, RACO 691 OR ANY OTHER TWO GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
SPK	HILL-ROM		PILLOW SPEAKER, REQUIRES ASBC.		
R	CURBELL	MAP985A	REMOTE ENTERTAINMENT STATION	STEEL CITY GW-225C, RACO 691 OR ANY OTHER TWO GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS
KS	HILL-ROM	P2514A01	SWITCH, KEY SWITCH, ENABLE/DISABLE	STEEL CITY CYLE-3/4, RACO 591, OR ANY OTHER 3.5" DEEP SINGLE GANG BACK BOX.	REFER TO ARCHITECTURAL ELEVATION DRAWINGS

DEVICE SYMBOL	CENTRAK NAME	PART #	BRACKETS	WORKING LOCATION	POWER	WORKING FUNCTION
CS	Centrak Star	CSH-TK-405		Ceiling	POE.	Used to interface the tags and monitors to the IT network.
ST	Star-Tuning	CSH-TK-135		Equipment Closet	To ethernet. One needed per sub net.	Keeps everyone from talking at once.
CM	Centrak Room Monitor	CSH-TK-615	ITA-361 9/16" ITA-362 1 1/8" ITA-363 5/16"	Ceiling / Wall	Battery Powered	Required to gain visibility to tags and keep a very accurate, local location accuracy using IR signaling.
VM	Virtual Wall Monitor (Single)	CSH-TK-625	ITA-371 9/16" ITA-372 15/16"	Ceiling / Wall	Battery Powered	Locating tagged assets or people that are geared to semi-private rooms and bays, typically found in ED or OR units. The area of coverage is not effected by physical walls.
MD	Monitor Drop Box	CSH-TK-605		Wall	Battery Powered	
HM	Hygiene Monitor (Dim)	CSH-TK-675		Mounts to soap dispenser, pump, and/or sink.	Battery Powered	Automatically tracks hand hygiene, 24/7 at the caregivers level. Collects data on all events at hand washing stations.
REG	Regenerator	CSH-TA-800		Ceiling / Wall		If over 8 Virtual Wall Monitors are installed, a Regenerator needs to be installed after the 4th VM Monitor in a bay.

ENHANCED LOCATING - CENTRAK



NOTE - ALL METAL BOXES MUST BE GROUNDED. IF THE CONDUIT SYSTEM IS NOT GROUNDED, THE BOXES MUST BE GROUNDED BACK TO THE BUILDING STEEL. MASONRY BOXES ARE NOT REQUIRED, ALL BOXES ARE REQUIRED TO BE METAL.

THIS PLAN IS FOR REFERENCE ONLY. THIS IS DESIGNED TO SHOW DIAGRAMS THAT MAY HELP IN THE CONSTRUCTION PROCESS.

**REQUIREMENTS FOR POE**  
-120-240 VAC 15 AMP MAX EMERGENCY POWER  
-1 ET CONNECTION BETWEEN THE POEs

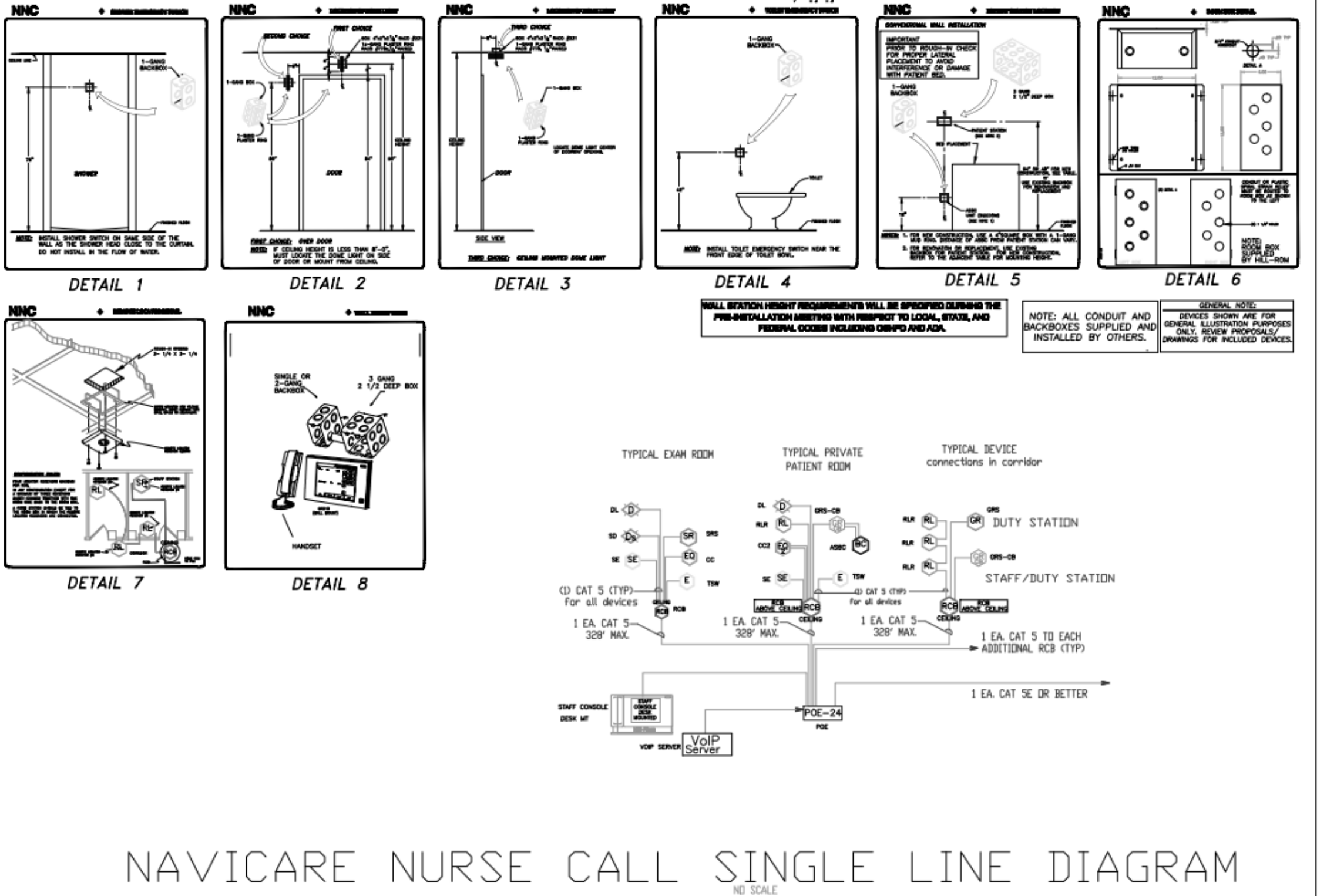
**POE CONNECTIONS**  
For connections between POE switches greater than the requirements for Cat5e, the switches accept SFP fiber transceivers (also known as mini-GBIC). See the NNC Install Manual for further information.

**REQUIREMENTS FOR THE UPC**

**REQUIREMENTS FOR THE SERVERS**  
-115 VAC 15 AMP MAX EMERGENCY POWER  
-MAX:1 CSOR&C TEM&MPS&M&M EMERGENCY POWER  
-1 CAT5 WIRES BETWEEN POE AND THE SERVER

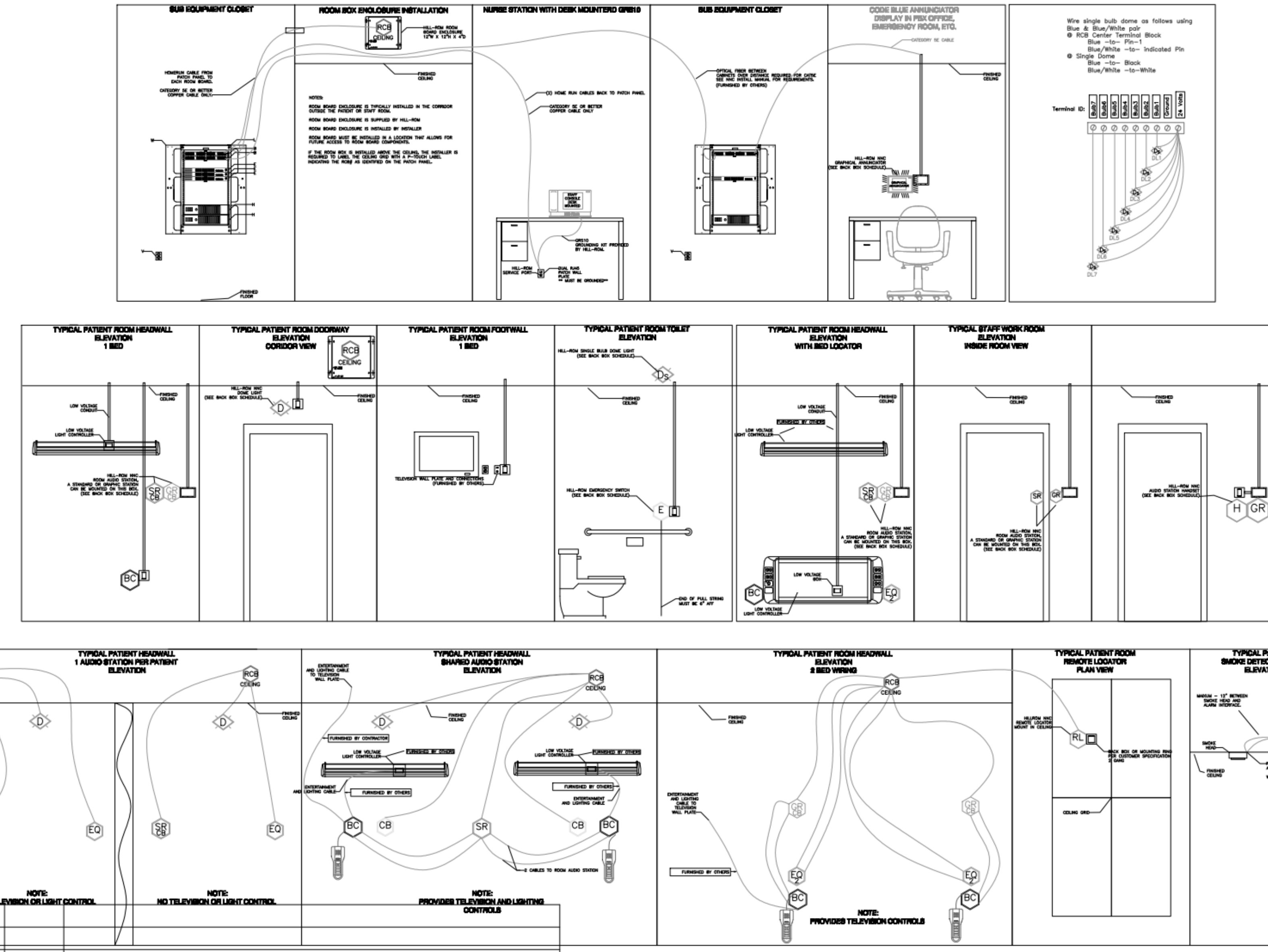
**COMMUNICATION NOTES:**

- All cabling must be plenum rated category 5e or better, 24AWG, 4 twisted pair communication cable. Belden 1585A or equivalent is required. Preferred jacket color for nurse call cabling is Seafoam Green.
- All cabling to be field terminated by installing contractor.
- Location of rough-in for all ASBC must avoid interference or damage from the patient bed.
- All device locations shown are for illustration purposes only, actual locations to be field determined.
- Hill-Rom requires AMP High Performance (Category 5e or better) RJ45 connectors for all nurse call wiring. Cable must be terminated with approved AMP termination tool and compatible die-set for the RJ45 connector selected. Since Cat5e and Cat5e dies are not cross-compatible, it is critical that the correct die be used for the chosen connector. Refer to the TE Connectivity website at www.te.com for current part numbers and compatibility lists.
- All termination tools are to be supplied by installing contractor.
- All glass walls, glass doors, and interior windows must be indicated.
- Any special requirements/interfaces not explicitly defined in proposal are not included.
- Unless otherwise noted, all non-standard products are not UL approved.



NAVICARE NURSE CALL SINGLE LINE DIAGRAM

TYPICAL PLACEMENT & WIRING ELEVATION DIAGRAMS



Revision Date	Revised by	Comments

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CARY, NC 27618  
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**Hill-Rom**  
Enhancing Outcomes for Patients and their Caregivers

Customer Information

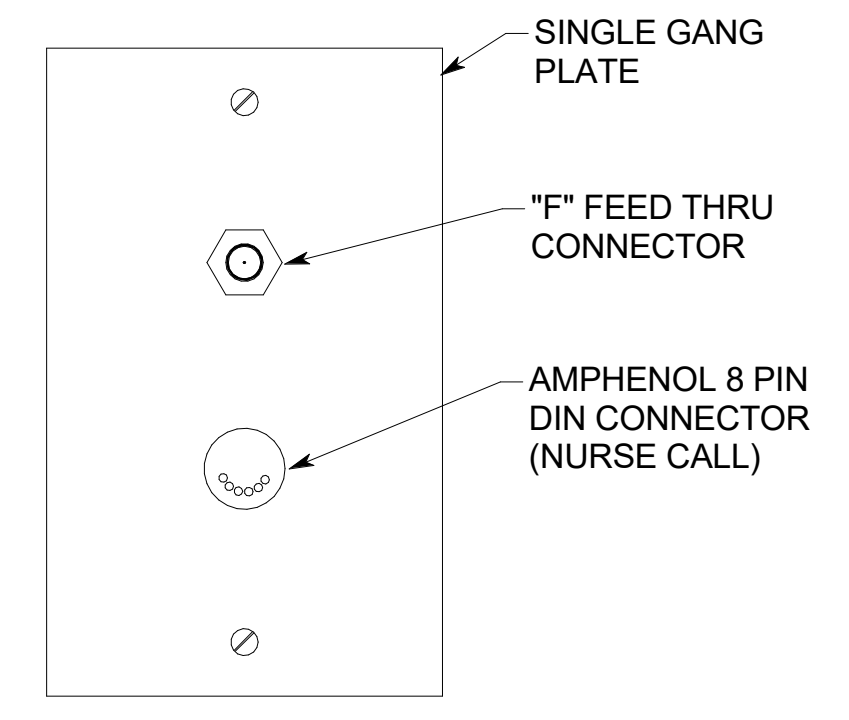
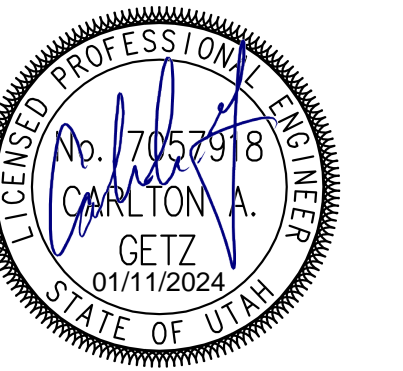
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CART NC 27518

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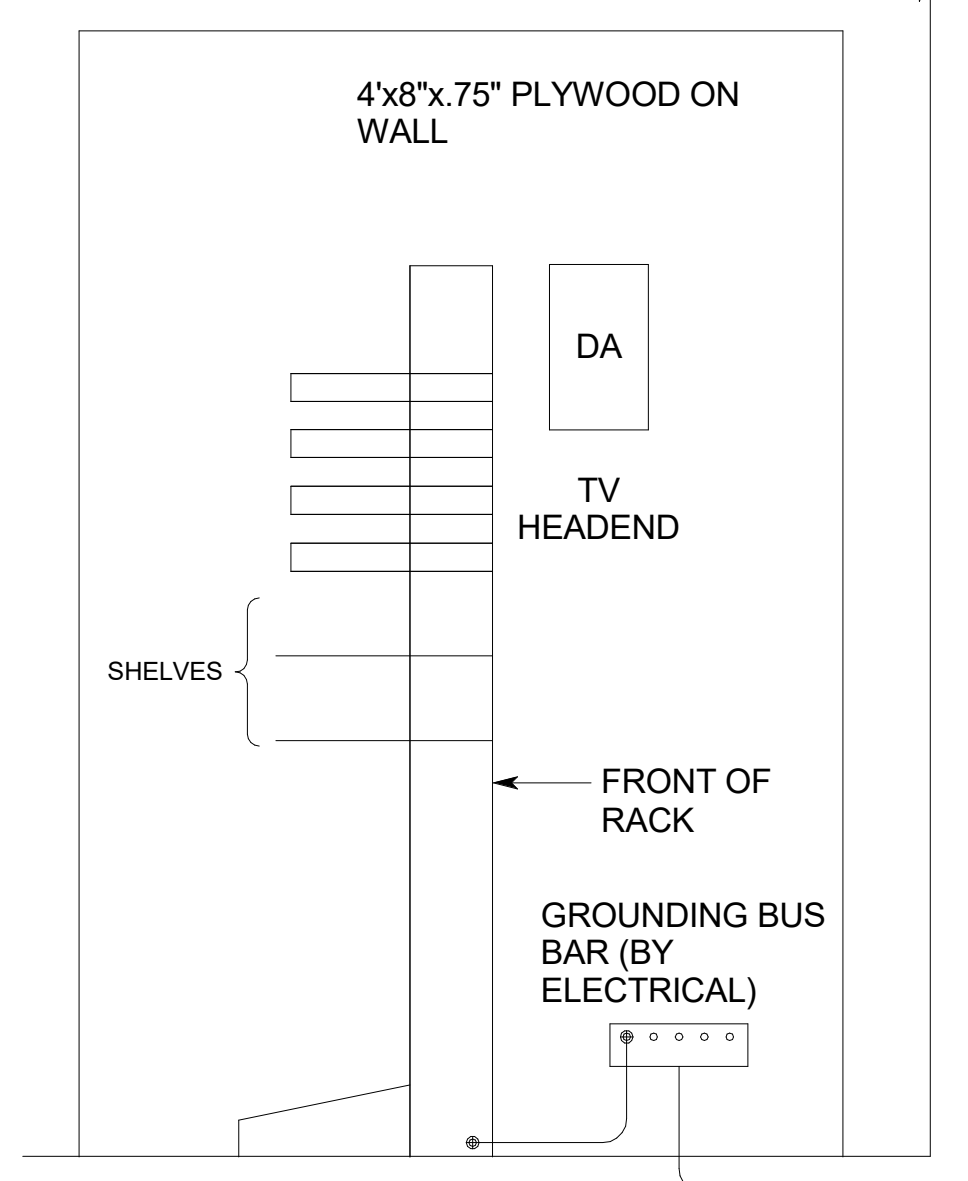
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Rev 1  
1/24/2014

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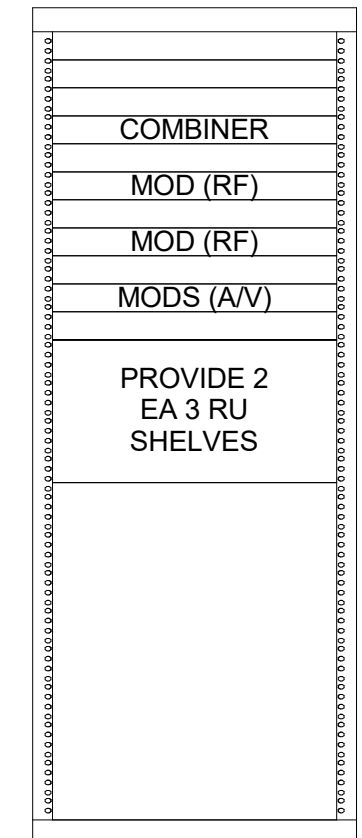
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**NOTES:**  
1. PROVIDE AMPHENOL CONNECTOR ON TV PLATES IN PATIENT ROOMS. NON-PATIENT LOCATIONS HAVE THE "F" CONNECTOR ONLY. CABLE TERMINATION TO AMPHENOL CONNECTOR WILL BE BY NURSE CALL INSTALLER.



NOTE: DO NOT PROVIDE BLANK PANELS. LEAVE EXTRA RACK SPACES OPEN.



TV RACK HEADEND (FRONT VIEW)

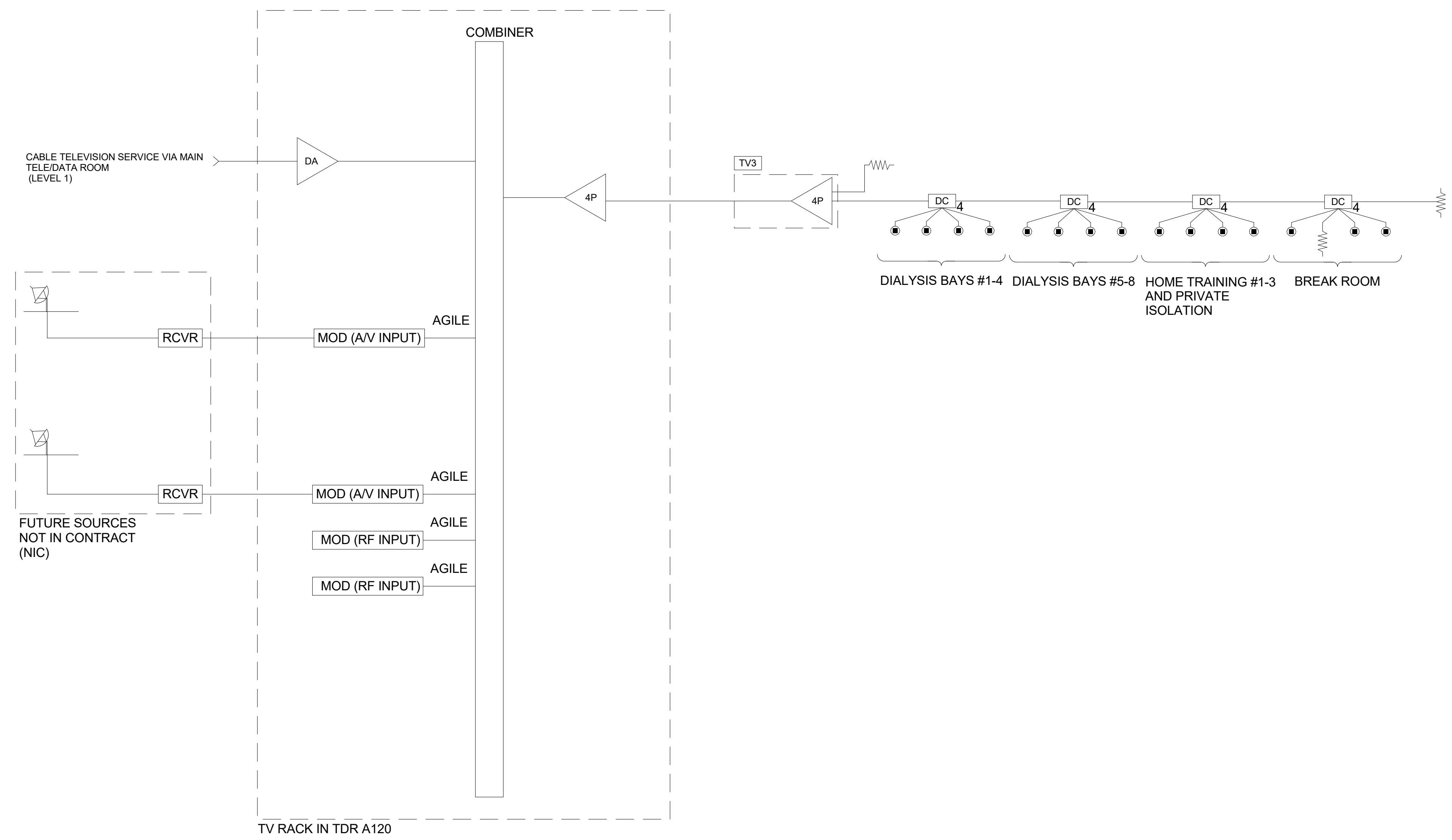
**SYMBOL SCHEDULE**

SYMBOL	DESCRIPTION	QTY	ACCEPTABLE TYPES
TV	EQUIPMENT RACK SYSTEMS TV - TV DISTRIBUTION	0FP	BLONDER TONGUE RACK - RR2180
2P 4P	MULTI PORT SPLITTER 2 PORT, 4 PORT	0FP	BLONDER TONGUE XRS SERIES
DA	BROADBAND DISTRIBUTION AMPLIFIER	0FP	BLONDER TONGUE BIDA 75A-43
DC (X)	DIRECTIONAL COUPLER (MULTI PORT)	0FP	BLONDER TONGUE SRT, SRT-2A, SRT-4A, SRT-8A
TV OUTLET	TV OUTLET	0FP	SEE DETAIL
RF TERMINATOR	RF TERMINATOR	0FP	75 OHM TERMINATOR
MOD	MODULATOR (RF INPUT)	0FP	BLONDER TONGUE AP 60-860A
MOD	MODULATOR (A/V INPUT)	0FP	BLONDER TONGUE AM-60-550
PAD	ATTENUATOR	0FP	BLONDER TONGUE FAF/FAM SERIES
COMBINER	CHANNEL COMBINER	0FP	BLONDER TONGUE OC SERIES (PASSIVE)
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER	0FP	EFI PT-2000

A/R = AS REQUIRED  
0FP = OBTAIN FROM PLANS

**D1 TV OUTLET PLATE DETAIL**  
NO SCALE

**D2 TV SYSTEM RACK ELEVATION**  
NO SCALE



**A1 TV DISTRIBUTION SINGLE LINE DIAGRAM**  
NO SCALE

Intermountain Health  
Intermountain Kidney Services  
West Valley Dialysis

2750 South 5600 West  
West Valley City, UT 84120

NJRA Project # 22211.05  
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CABLE  
DIAGRAMS

EY604



WIRING SCHEDULE				
FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE				
SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT PER CIRCUIT ALONE	MAXIMUM
☒ 15	15 CD	20'x20'	.085A	17
☒ 30	30 CD	30'x30'	.135A	11
☒ 75	75 CD	40'x40'	.200A	7
☒ 110	110 CD	50'x50'	.225A	6

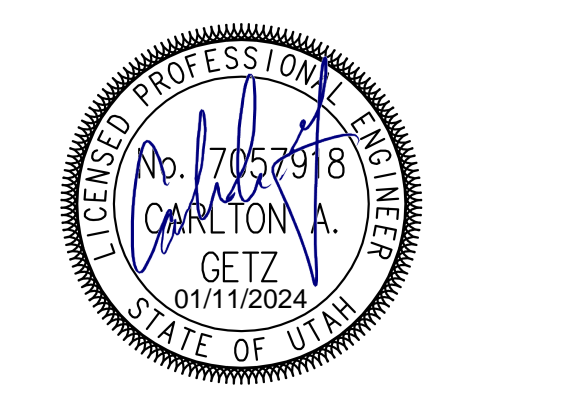
ZONE	OUTPUT DEVICES								NOTES	
	GENERAL ALARM	DOOR HOLDERS/CLOSERS	FAN SHUTDOWN	FIRE DAMPERS	CLOSE SMOKE DAMPERS	SUPERVISORY SIGNAL	TROUBLE SIGNAL			
1	MAIN FLOW	o								
2	MAIN TAMPER					o				
3	MAIN LEVEL FLOW	o								
4	MAIN LEVEL TAMPER					o				
5	MAIN LEVEL INITIATING LOOP	o								
6	MAIN LEVEL SMOKE DETECTOR	o	o							
7	MAIN LEVEL DUCT DETECTOR	o	o	o						
8	SYSTEM FAULT					o				
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**GENERAL SHEET NOTES**

- PLANS ARE BASED UPON 88 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 2 AMPS AT 24 VDC. NOT TO EXCEED 75% (1.50 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
- FLOW AND TAMPER CONFIGURATION BASED UPON FIRE SPRINKLER DESIGN CONCEPT. FIELD VERIFY ACTUAL REQUIREMENTS. INCLUDE ANY ADDITIONAL MONITOR MODULES REQUIRED BY ACTUAL DESIGN REQUIREMENTS.
- HEAT DETECTORS WHEN INSTALLED IN ELEVATOR SHAFTS OR MECHANICAL ROOMS FOR ELEVATOR SHUT DOWN SHALL HAVE HEAT DETECTOR WITH LOWER RESPONSE TIME INDEX THAN SPRINKLER HEAD.
- PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
- BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- VFD REQUIRES TWO RELAYS, ONE FOR SMOKE CONTROL, ONE SPARE.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
- PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.
- PROVIDE DUCT DETECTOR AT EACH FLOOR. PRIOR TO CONNECTION TO A COMMON RETURN AND PRIOR TO RECIRCULATING OR FRESH AIR INLET IN AIR RETURN SYSTEMS OVER 15,000 CFM CAPACITY AND SERVING MORE THAN ONE STORY.
- PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.
- PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
- LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS.
- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- INITIATING AND INDICATING LOOPS SHALL NOT SERVE AN AREA OF GREATER THAN 22,500 SQUARE FEET. PROVIDE ADDITIONAL LOOPS FOR AREAS LARGER THAN THIS.
- ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
- HORN/STROBE BASED ON 120 MILLIAMPS, DOOR HOLDERS BASED ON 70 MILLIAMPS.



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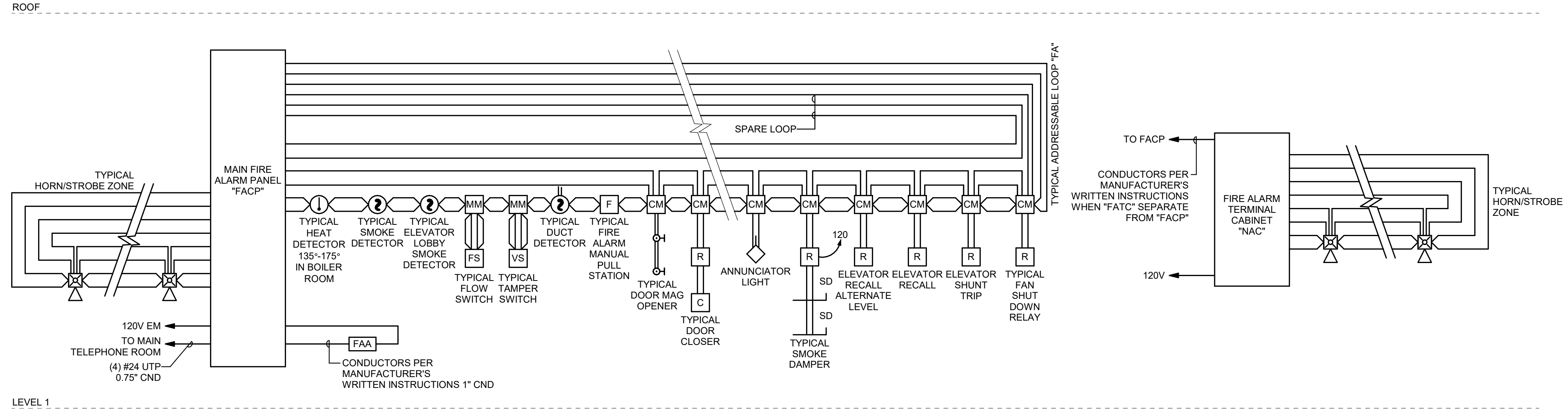
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FIRE ALARM RISER

FA601



**A1 FIRE ALARM RISER**  
SCALE: NTS

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