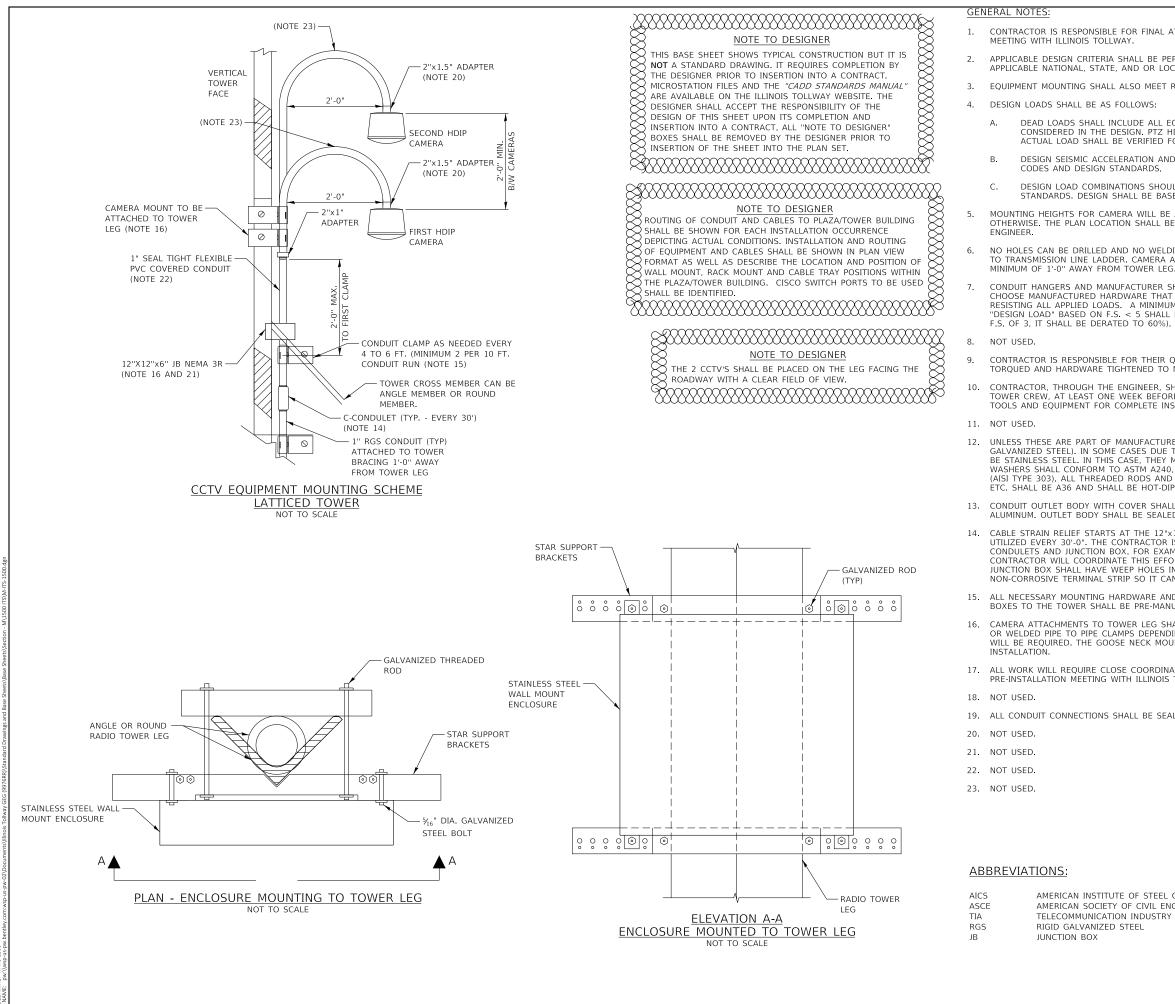
Illinois Tollway Base Sheet Revisions

Section M	Base Sheet Drawings			
	Drawing	Modification Summary	Effective: 03-01-2023	
		Tower Mounted CCTV (ITS)-Series 1500		
	M-ITS-1503	CABINET WIRING DIAGRAM TOWER MOUNTED CCTV ITS ASSEMBLY		
		Item AQ added 24VDC to say: PoE Injector A	Axis T8144 24VDC	

New Sheet
Retired Standard



CONTRACTOR IS RESPONSIBLE FOR FINAL ATTACHMENT DETAILS BASED ON THE DRAWINGS AND PRE-INSTALLATION

APPLICABLE DESIGN CRITERIA SHALL BE PER THE LATEST EDITION OF AISC MANUAL, ASCE 7-05, TIA-222-G, AND APPLICABLE NATIONAL, STATE, AND OR LOCAL BUILDING CODES.

EQUIPMENT MOUNTING SHALL ALSO MEET REQUIREMENTS LISTED IN SPECIAL PROVISIONS.

DEAD LOADS SHALL INCLUDE ALL EQUIPMENT LOADS, INCLUDING CONDUIT AND MOUNTING LOADS SHALL BE CONSIDERED IN THE DESIGN. PTZ HDIP CAMERA WEIGHT SHALL BE ASSUMED TO WEIGH MINIMUM 10.14 LBS. ACTUAL LOAD SHALL BE VERIFIED FOR THE SPECIFIED MODEL FROM VENDOR

DESIGN SEISMIC ACCELERATION AND WIND SPEED SHOULD BE DETERMINED FROM APPLICABLE BUILDING

DESIGN LOAD COMBINATIONS SHOULD BE DETERMINED FROM APPLICABLE BUILDING CODES AND DESIGN STANDARDS, DESIGN SHALL BE BASED ON ALLOWABLE STRESS DESIGN (A.S.D.) METHOD.

MOUNTING HEIGHTS FOR CAMERA WILL BE AS CLOSE TO TOWER TOP AS PRACTICAL, UNLESS THE OR ENGINEER SPECIFIES OTHERWISE. THE PLAN LOCATION SHALL BE COORDINATED WITH THE ILLINOIS TOLLWAY AND

NO HOLES CAN BE DRILLED AND NO WELDING IS ALLOWED INTO TOWER MEMBERS. DO NOT MOUNT RIGID CONDUIT TO TRANSMISSION LINE LADDER. CAMERA AND ANTENNA SHALL BE MOUNTED ON TOWER VERTICAL LEGS ONLY AT A

CONDUIT HANGERS AND MANUFACTURER SHOWN IN DRAWINGS ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL ONLY CHOOSE MANUFACTURED HARDWARE THAT HAS A RATED "DESIGN LOAD" FROM THE VENDOR AND IS CAPABLE OF RESISTING ALL APPLIED LOADS. A MINIMUM FACTOR OF SAFETY OF 5 SHALL BE ENSURED. VENDOR SPECIFIED DESIGN LOAD" BASED ON F.S. < 5 SHALL BE PROPORTIONATELY DERATED (E.G. IF DESIGN LOAD IS BASED ON

CONTRACTOR IS RESPONSIBLE FOR THEIR QUALITY CONTROL AND PROVIDING DOCUMENTATION THAT ALL BOLTS ARE TORQUED AND HARDWARE TIGHTENED TO MANUFACTURER'S ESTABLISHED REQUIREMENTS.

CONTRACTOR, THROUGH THE ENGINEER, SHALL COORDINATE CAMERA AND ANTENNA MOUNTING WITH ILLINOIS TOLLWAY'S TOWER CREW, AT LEAST ONE WEEK BEFORE PROPOSED INSTALLATION. CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS AND EQUIPMENT FOR COMPLETE INSTALLATION OF CAMERA AND ANTENNAS AT EACH PLAZA.

12. UNLESS THESE ARE PART OF MANUFACTURED ASSEMBLY. THREADED RODS AND U-BOLTS SHALL BE HOT-DIPPED GALVANIZED STEEL). IN SOME CASES DUE TO MANUFACTURED PART AVAILABILITY, THREADED RODS AND U-BOLTS MAY BE STAINLESS STEEL. IN THIS CASE, THEY MUST CONFORM TO ASTM A193, CLASS I, GRADE B8 (AISI TYPE 304). WASHERS SHALL CONFORM TO ASTM A240, TYPE 302. NUTS SHALL CONFORM TO ASTM A194 (AASHTO M292), GRADE 8F (AISI TYPE 303). ALL THREADED RODS AND U-BOLTS TO BE DOUBLE NUTTED. MATERIAL FOR STRUCTURAL STEEL, ANGLES, ETC. SHALL BE A36 AND SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM 4123.

13. CONDUIT OUTLET BODY WITH COVER SHALL BE MALLEABLE IRON WITH TRIPLE COAT FINISH OR EPOXY POWDER COATED ALUMINUM. OUTLET BODY SHALL BE SEALED TIGHT WITH NEOPRENE GASKETS.

14. CABLE STRAIN RELIEF STARTS AT THE 12"x12"x6" JUNCTION BOX. FROM THAT POINT DOWN, C-CONDULETS SHALL BE UTILIZED EVERY 30-0". THE CONTRACTOR IS RESPONSIBLE FOR UTILIZING STRAIN RELIEVE TECHNIQUES IN THE CONDULETS AND JUNCTION BOX. FOR EXAMPLE, A WEAVED STRAIN RELIEF GRIP CAN BE UTILIZED OR WEDGES. THE CONTRACTOR WILL COORDINATE THIS EFFORT WITH THE ENGINEER AND THE ILLINOIS TOLLWAY TOWER CREW. JUNCTION BOX SHALL HAVE WEEP HOLES IN BOTTOM TO ALLOW MOISTURE TO BLEED OFF. JB SHALL HAVE A NON-CORROSIVE TERMINAL STRIP SO IT CAN BE USED AS A TRANSITION POINT FOR CABLING

15. ALL NECESSARY MOUNTING HARDWARE AND BRACKETS NECESSARY TO ATTACH THE EQUIPMENT, RACEWAYS AND PULL BOXES TO THE TOWER SHALL BE PRE-MANUFACTURED AND NOT BE BUILT IN THE FIELD WITH INDIVIDUAL COMPONENTS

CAMERA ATTACHMENTS TO TOWER LEG SHALL BE AT MINIMUM OF 2 LOCATIONS UTILIZING UNIVERSAL SADDLE MOUNTS OR WELDED PIPE TO PIPE CLAMPS DEPENDING ON THE TOWER TYPE. CONTRACTOR TO DETERMINE PROPER SIZE. U-BOLTS WILL BE REQUIRED. THE GOOSE NECK MOUNT TO THE TOWER SHALL BE SET PLUMB SO AS TO PROVIDE A PLUMB CAMERA

17. ALL WORK WILL REQUIRE CLOSE COORDINATION WITH ILLINOIS TOLLWAY STAFF AND THE ENGINEER. THIS INCLUDES A PRE-INSTALLATION MEETING WITH ILLINOIS TOLLWAY STAFF AND ENGINEER.

19. ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH TAPE AS PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN SOCIETY OF CIVIL ENGINEERS TELECOMMUNICATION INDUSTRY ASSOCIATION

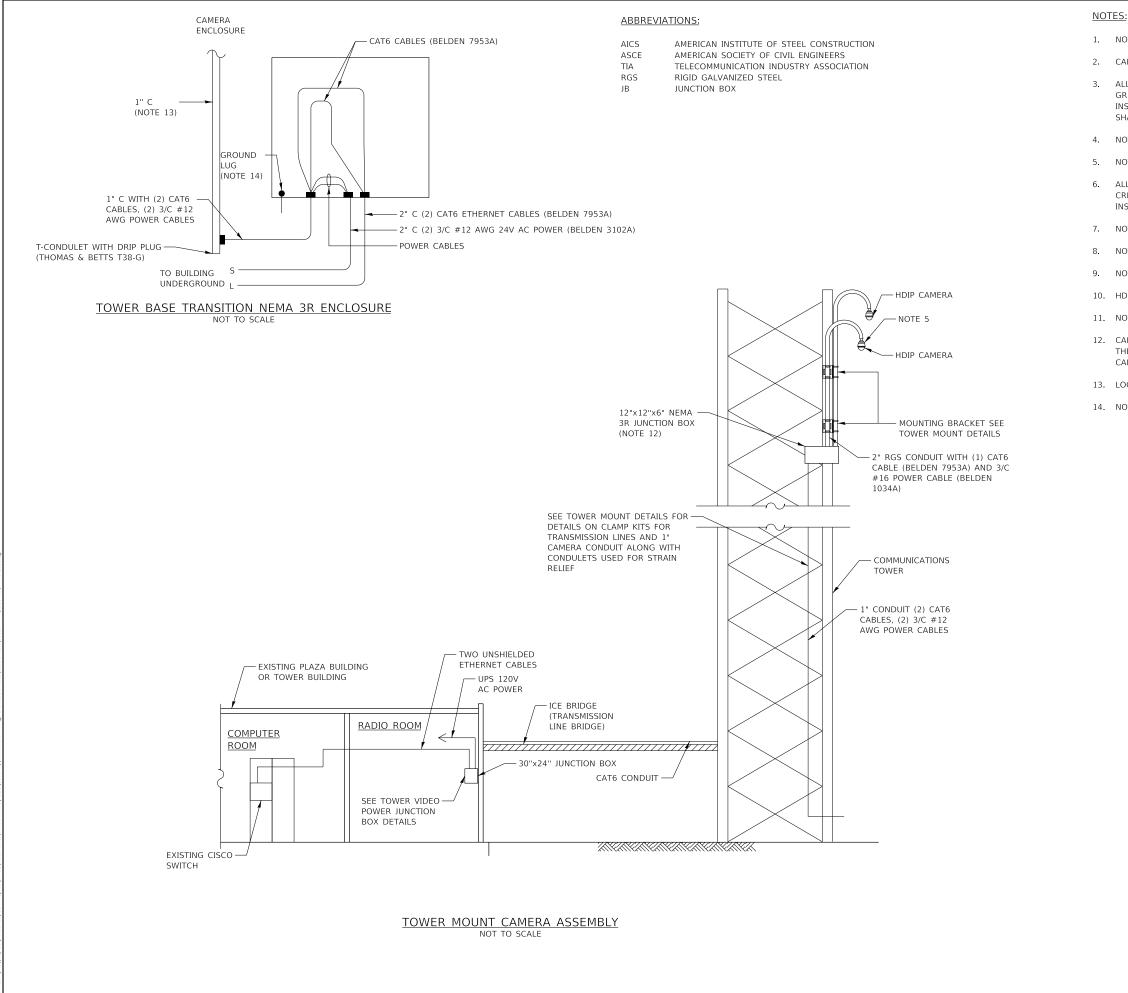


ITS DETAILS TOWER MOUNT CAMERA DETAILS

2022-03

M-ITS-1500

1 OF 1



Pen/BlackWhite-ILTollway 2LOT TIME: 1:03:22 AM

1. NOT USED.

CAMERA MUST BE GROUNDED IN HOUSING.

ALL EQUIPMENT MUST BE CONNECTED TO A COMMON GROUND. GROUND CABLES SHALL BE GREEN INSULATED TYPE RHW CONDUCTORS. ANY GROUND CONDUCTORS THAT ARE BURIED SHALL BE SOLID COPPER TINNED.

4. NOT USED.

NOT USED.

ALL CONDUIT CONNECTIONS SHALL BE SEALED WITH TAPE PER ILLINOIS TOLLWAY TOWER CREW INSTRUCTIONS

NOT USED.

8. NOT USED.

9. NOT USED.

10. HD IP CAMERA WILL USE A SINGLE CAT6 CABLE TO EACH CAMERA

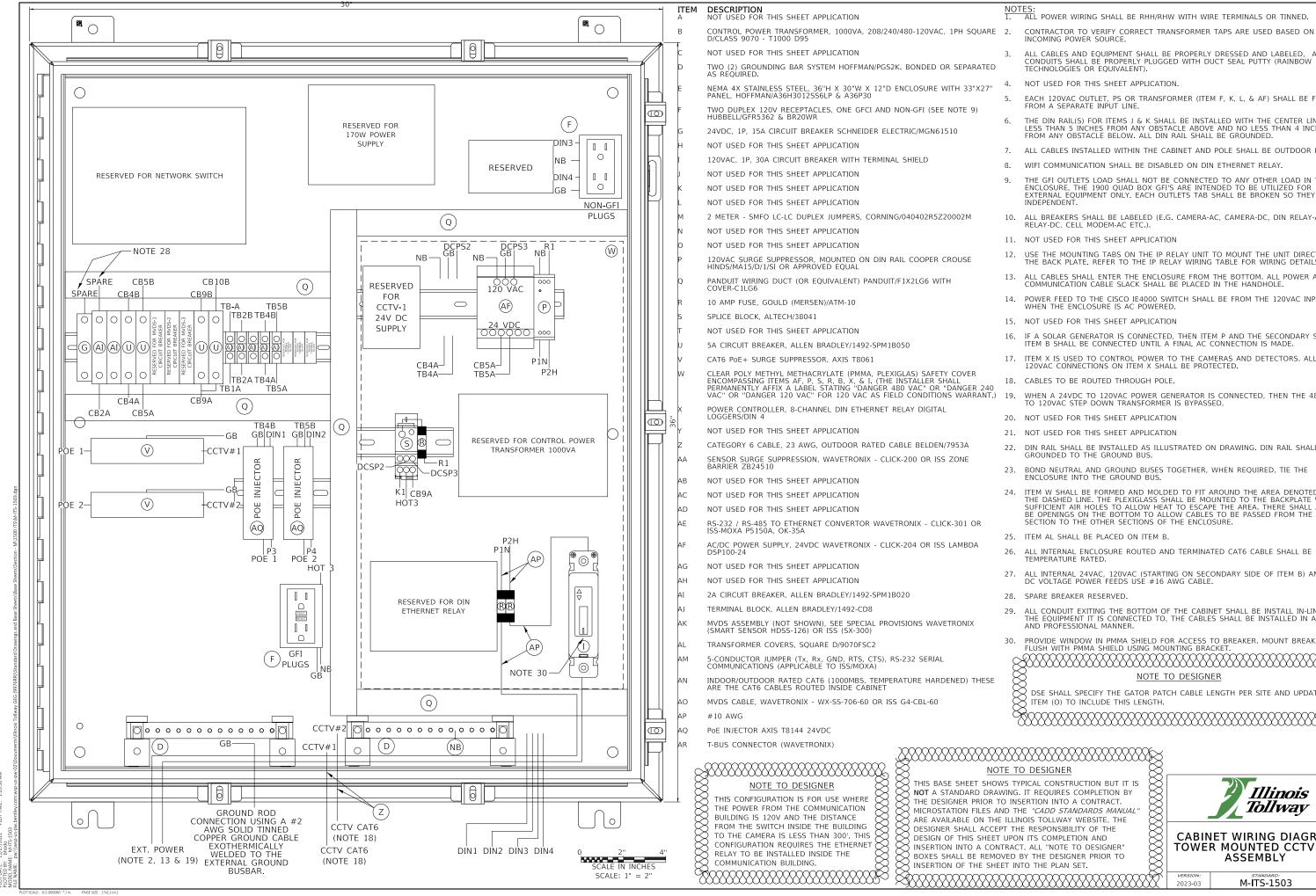
11. NOT USED.

12. CAMERA TRANSITION NEMA 3R STAINLESS STEEL JUNCTION BOX IS USED TO TRANSITION TO THE 2 CAMERAS. ENCLOSURE MUST MOUNT SECURELY TO TOWER AT TWO POINTS.

13. LOOP A MINIMUM OF 3FT OF CAT 6 INSIDE CAMERA TRANSITION ENCLOSURE.

14 NOT USED





RE	2.	CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.		
ED	3.	ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).		
7"	4.	NOT USED FOR THIS SHEET APPLICATION.		
	5.	EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, $\&$ AF) SHALL BE FED FROM A SEPARATE INPUT LINE.		
	6.	THE DIN RAIL(S) FOR ITEMS J & K SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.		
	7.	ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.		
	8.	WIFI COMMUNICATION SHALL BE DISABLED ON DIN ETHERNET RELAY.		
	9.	THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.		
	10.	ALL BREAKERS SHALL BE LABELED (E.G. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).		
	11.	NOT USED FOR THIS SHEET APPLICATION		
	12.	USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.		
	13.	ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM. ALL POWER AND COMMUNICATION CABLE SLACK SHALL BE PLACED IN THE HANDHOLE.		
	14.	POWER FEED TO THE CISCO IE4000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.		
	15.	NOT USED FOR THIS SHEET APPLICATION		
	16.	IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.		
	17.	ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.		
40	18.	CABLES TO BE ROUTED THROUGH POLE.		
40 IT.)	19.	WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.		
	20.	NOT USED FOR THIS SHEET APPLICATION		
	21.	NOT USED FOR THIS SHEET APPLICATION		
	22.	DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.		
	23.	BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE ENCLOSURE INTO THE GROUND BUS.		
	24.	ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.		
	25.	ITEM AL SHALL BE PLACED ON ITEM B.		
	26.	ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED.		
	27.	ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.		
	28.	SPARE BREAKER RESERVED.		
	29.	ALL CONDUIT EXITING THE BOTTOM OF THE CABINET SHALL BE INSTALL IN-LINE WITH THE EQUIPMENT IT IS CONNECTED TO. THE CABLES SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER.		
	30.	PROVIDE WINDOW IN PMMA SHIELD FOR ACCESS TO BREAKER. MOUNT BREAKER FLUSH WITH PMMA SHIELD USING MOUNTING BRACKET.		
	8			
SE	g	NOTE TO DESIGNER		
	ğ	C DSE SHALL SPECIFY THE GATOR PATCH CABLE LENGTH PER SITE AND UPDATE		
	g	\$xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		
<u>NO.</u>	ХХХ те т(D DESIGNER		
		PICAL CONSTRUCTION BUT IT IS IT REQUIRES COMPLETION BY		
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IEET	UPOI	N ITS COMPLETION AND 🛛 🖄 CABINET WIRING DIAGRAM		
CONTRACT. ALL "NOTE TO DESIGNER" EMOVED BY THE DESIGNER PRIOR TO SHEET INTO THE PLAN SET.				
<u>8</u>	<u>88</u>	VERSION: STANDARD; SHEET; 2023-03 M-ITS-1503 1 oF 1		

NOTES: 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.